

French et al.

Method and system for managing secure geographic boundary resources  
within a network management framework

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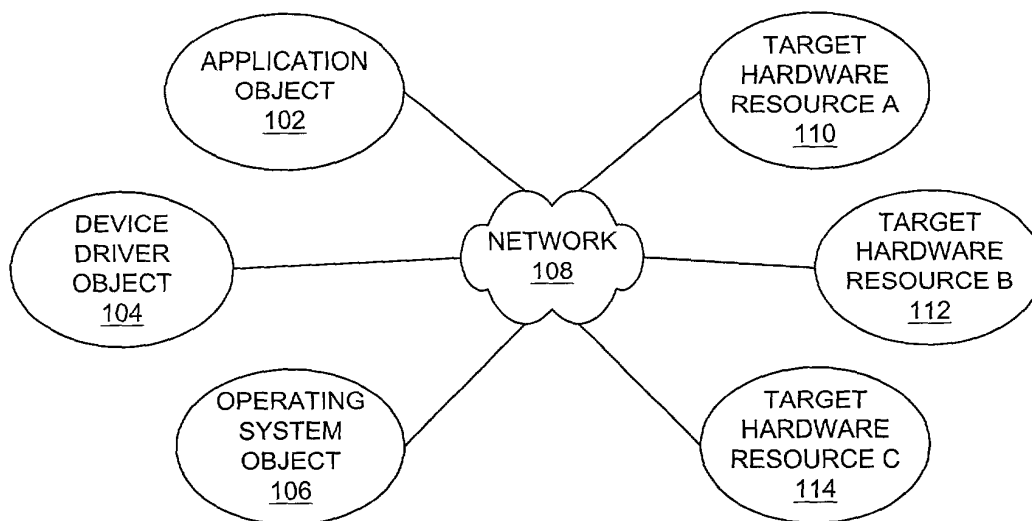


FIG. 1  
(PRIOR ART)

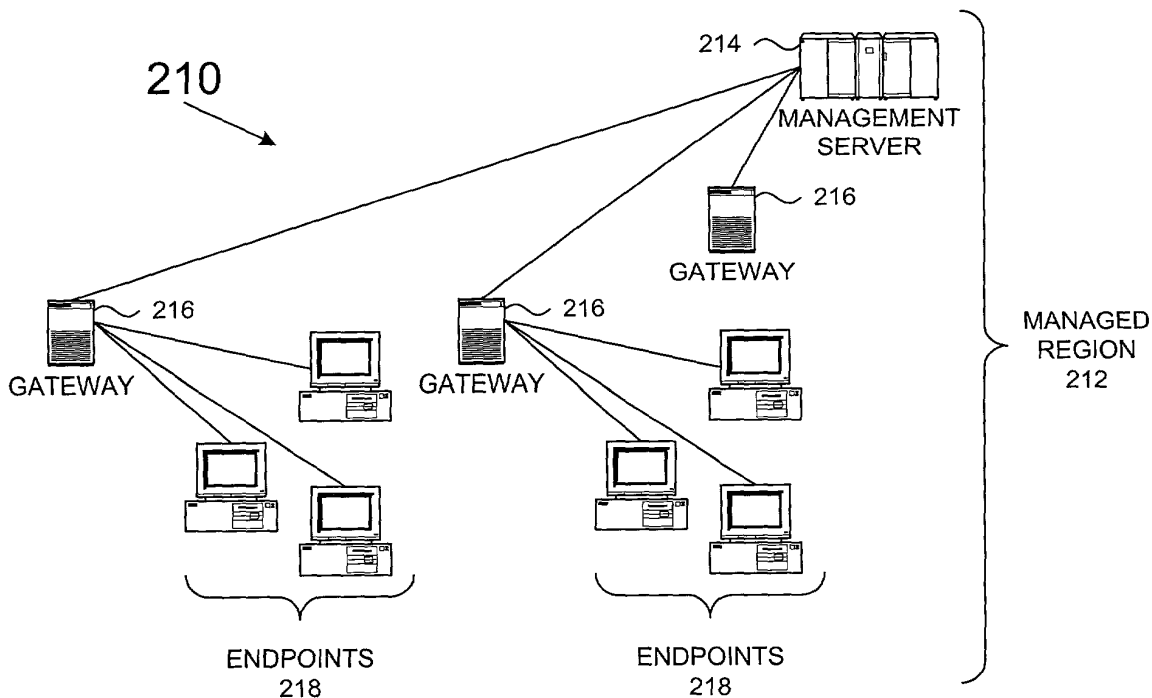


FIG. 2A

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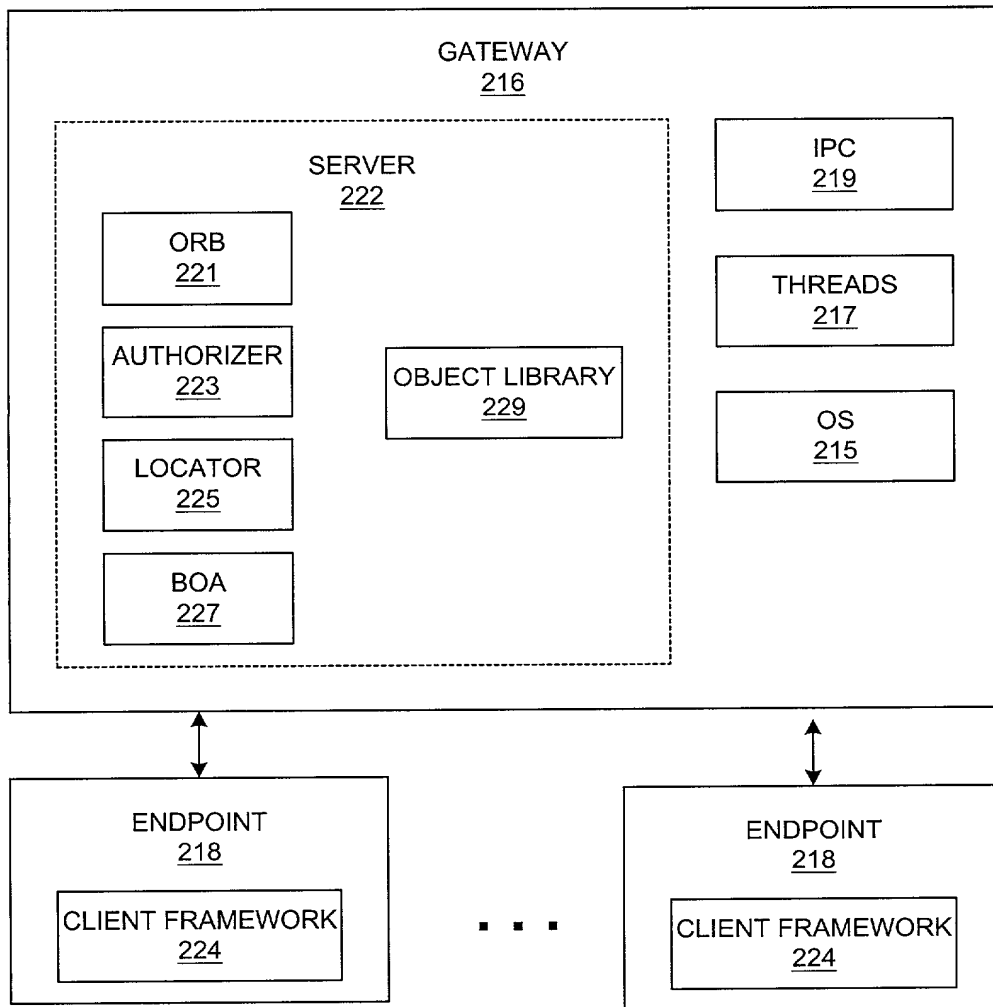


FIG. 2B

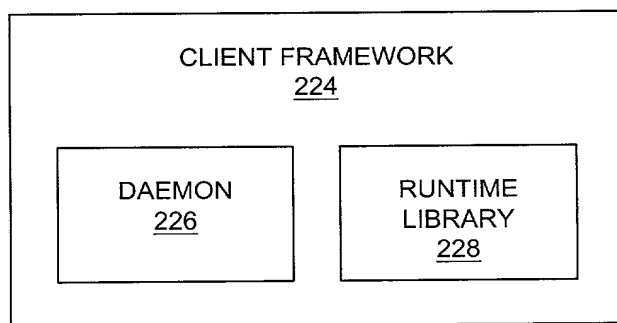
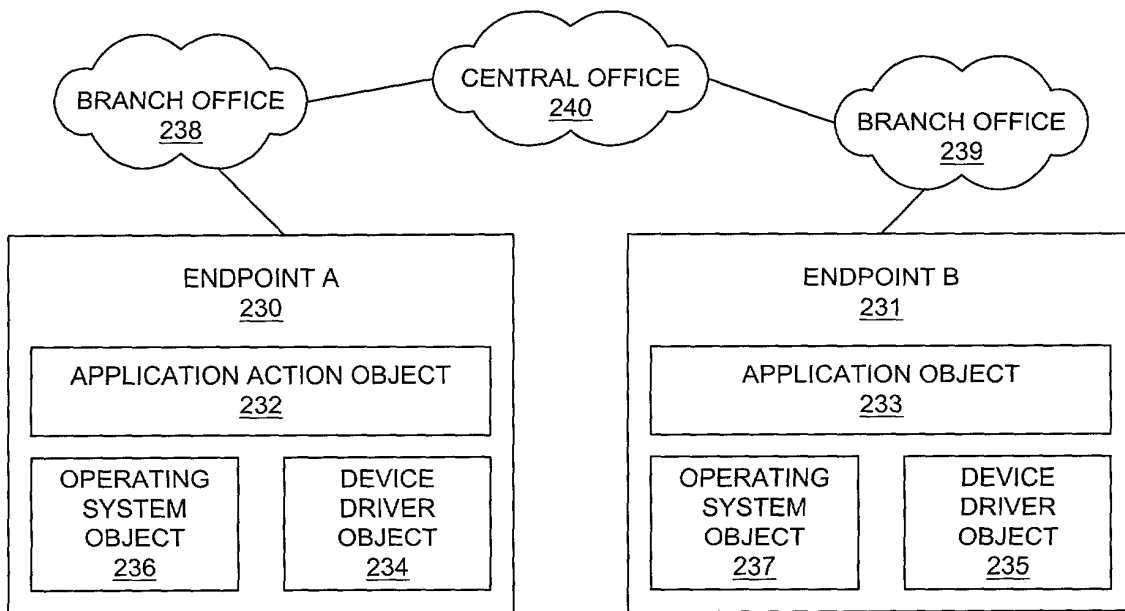
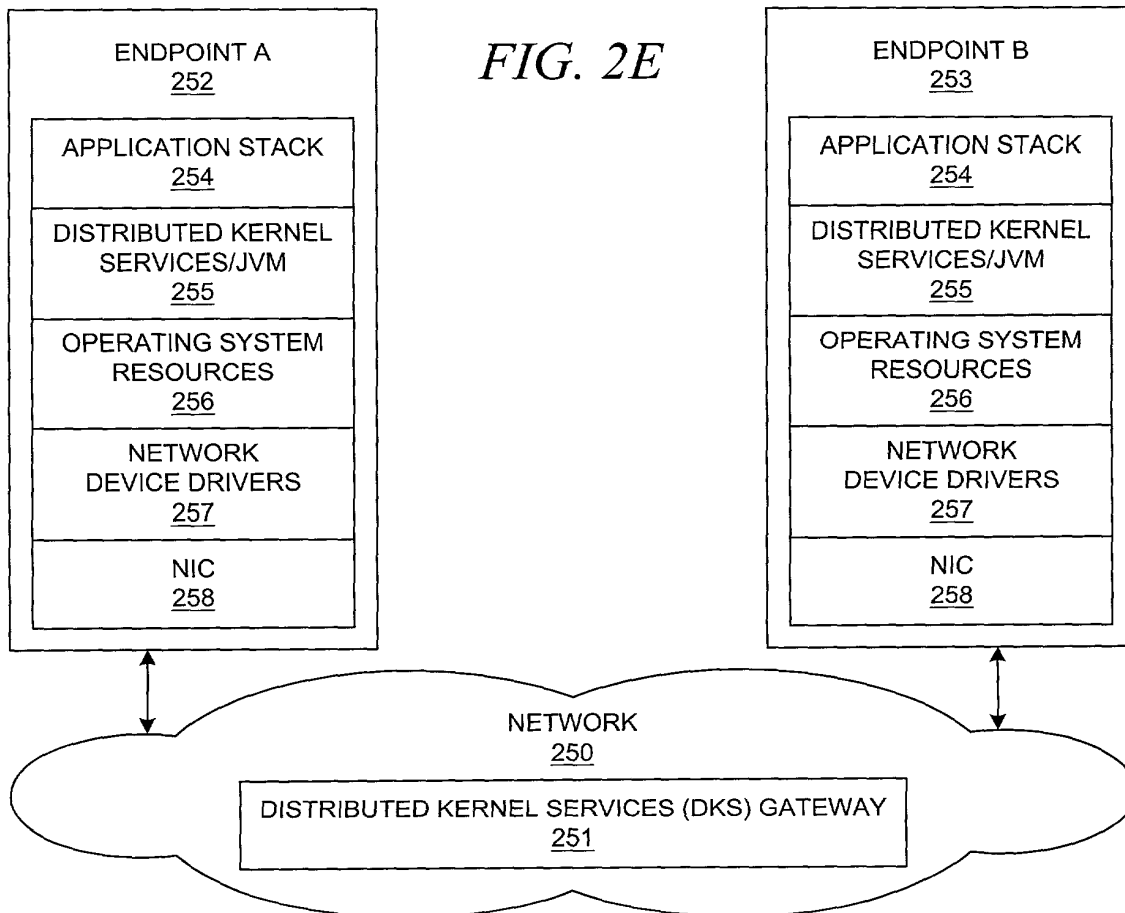


FIG. 2C

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within a network management framework

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*FIG. 2D**FIG. 2E*

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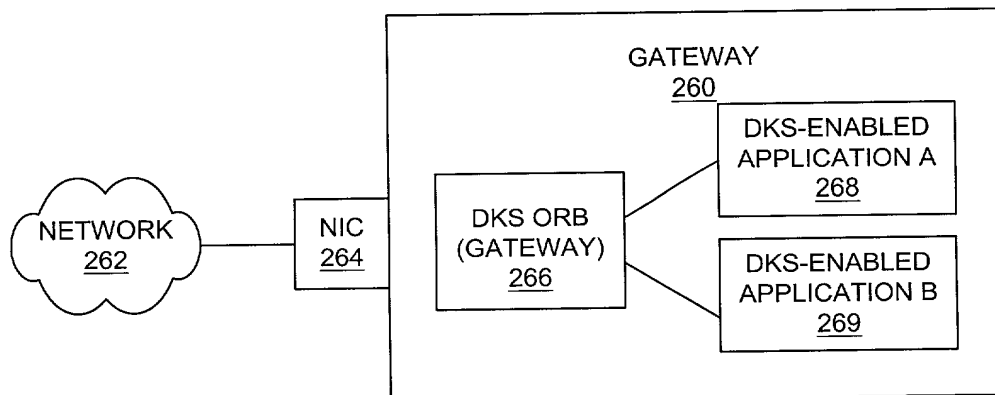


FIG. 2F

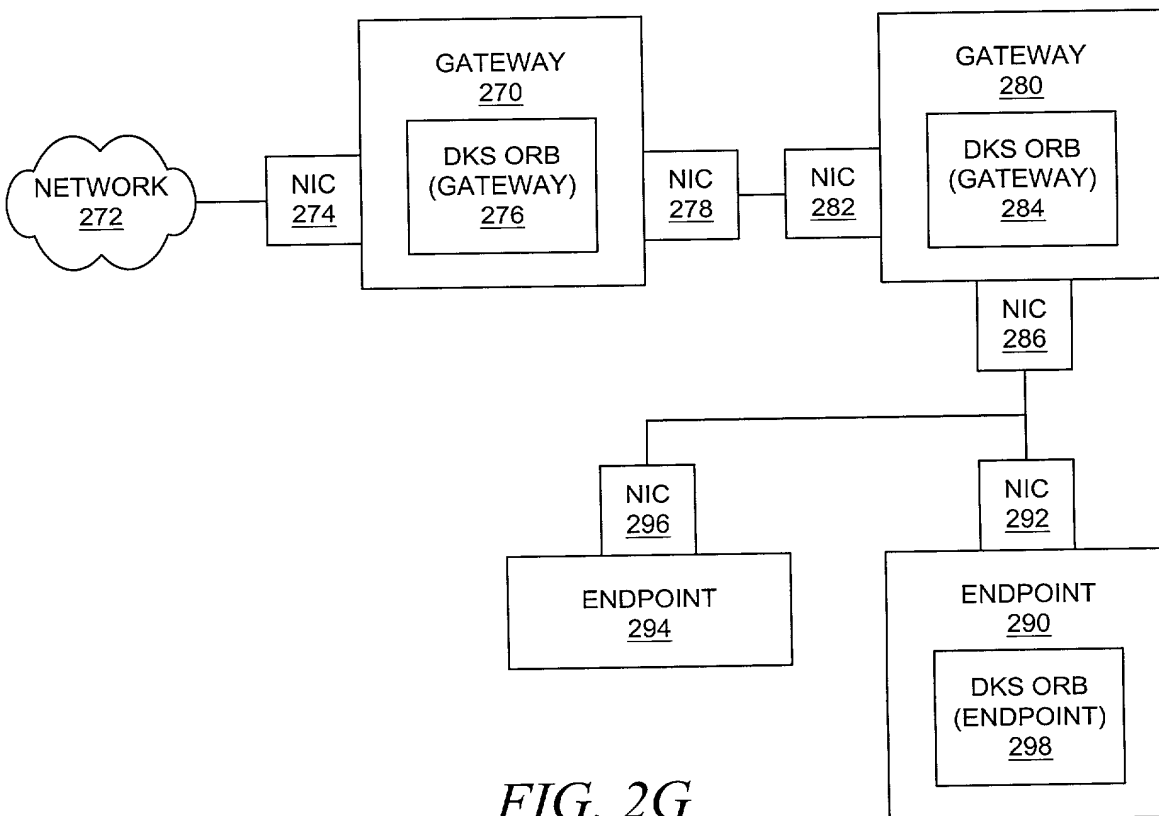


FIG. 2G

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within a network management framework

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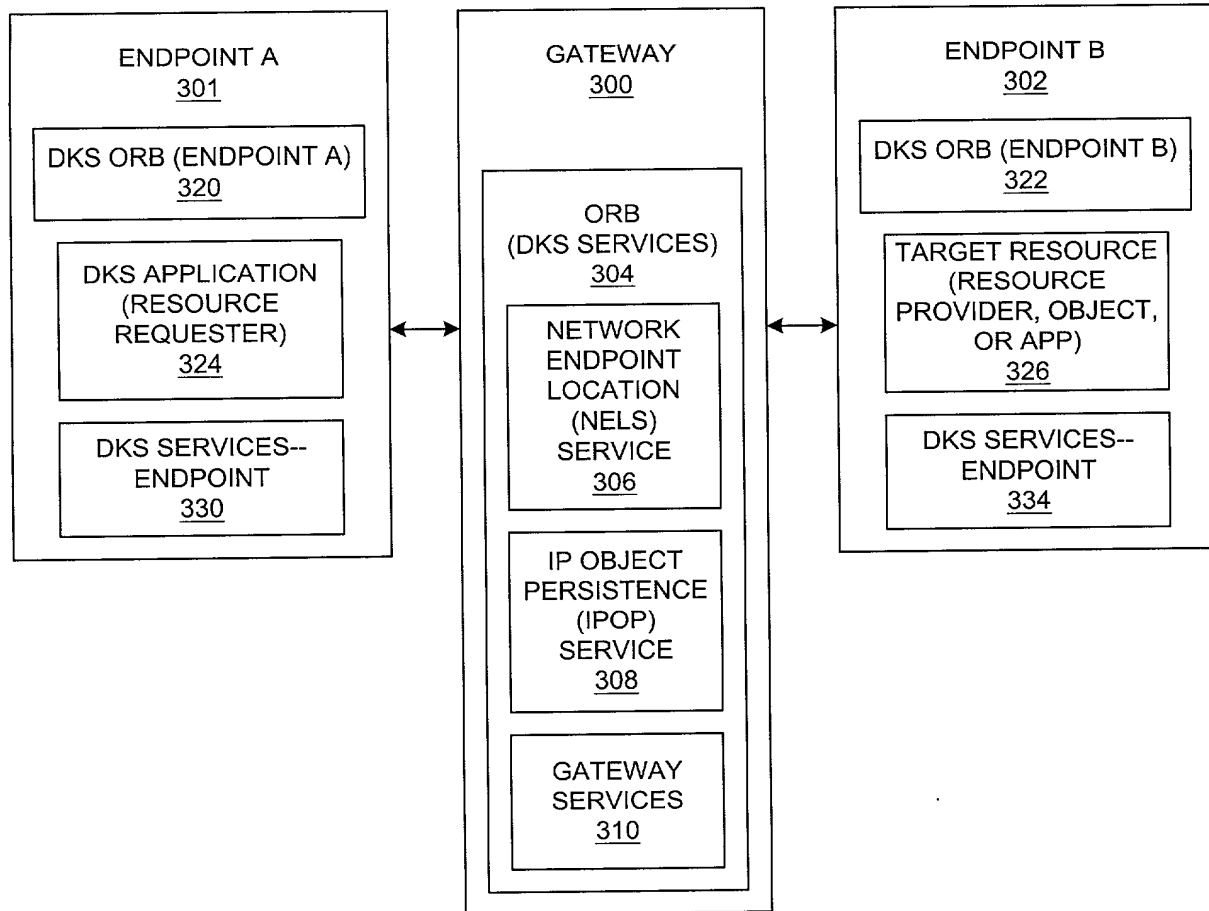


FIG. 3

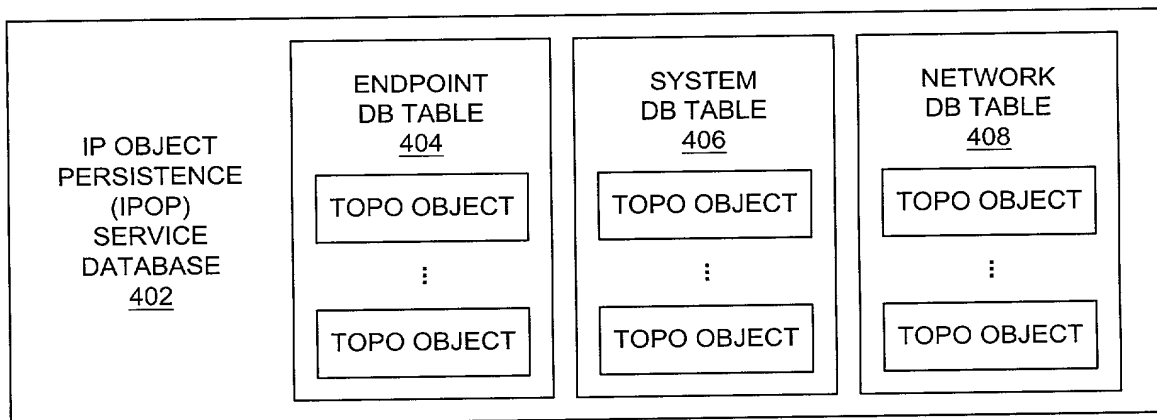
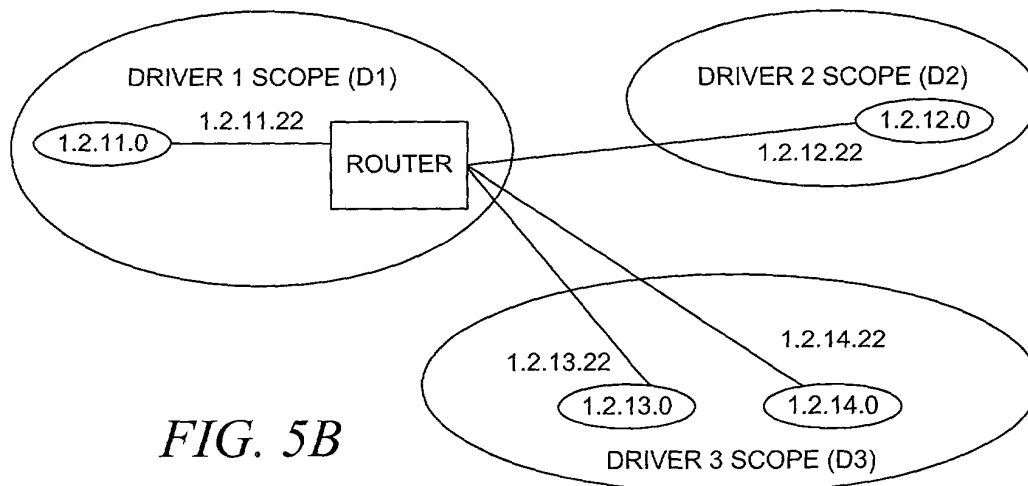
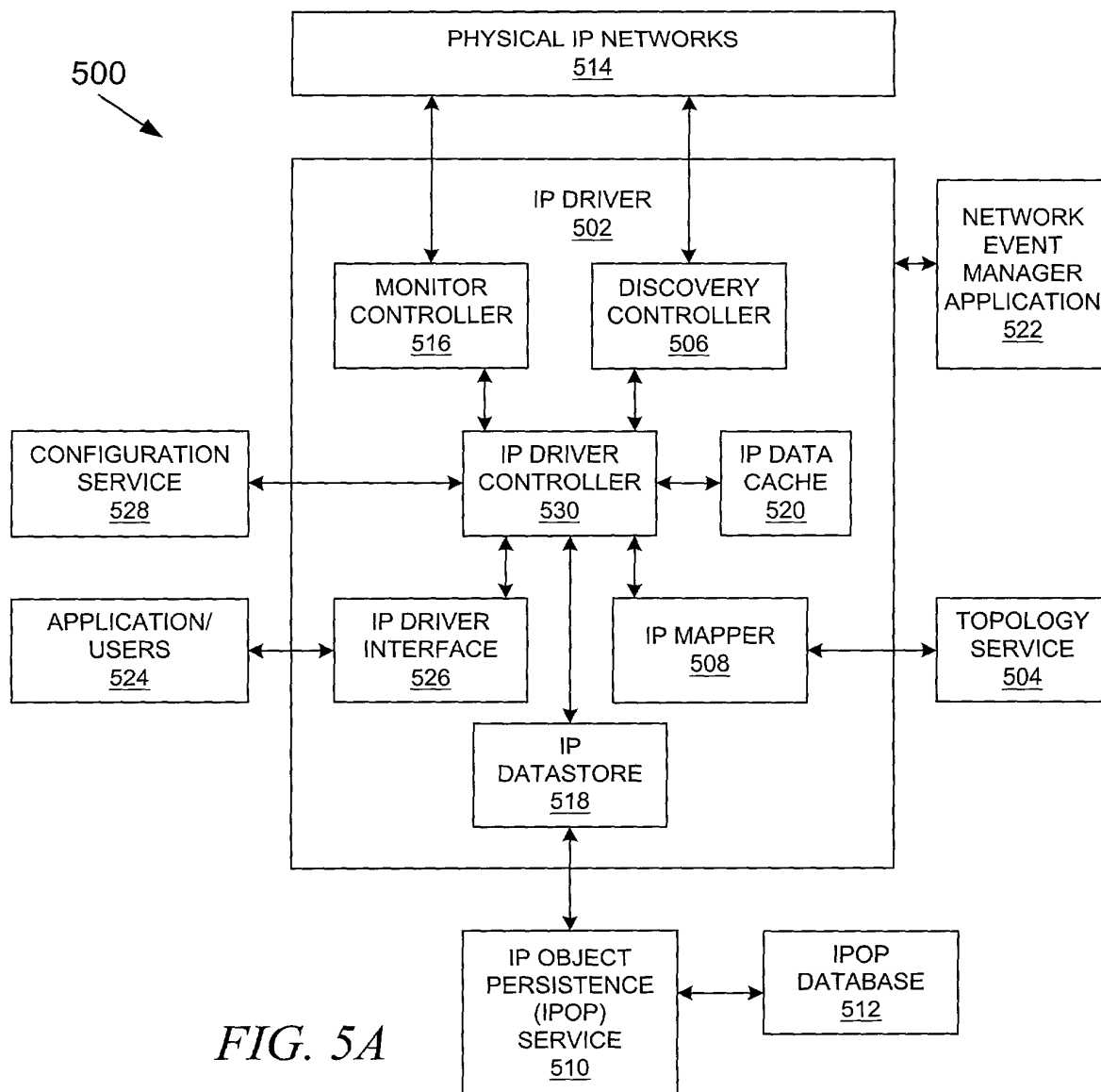


FIG. 4

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within a network management framework

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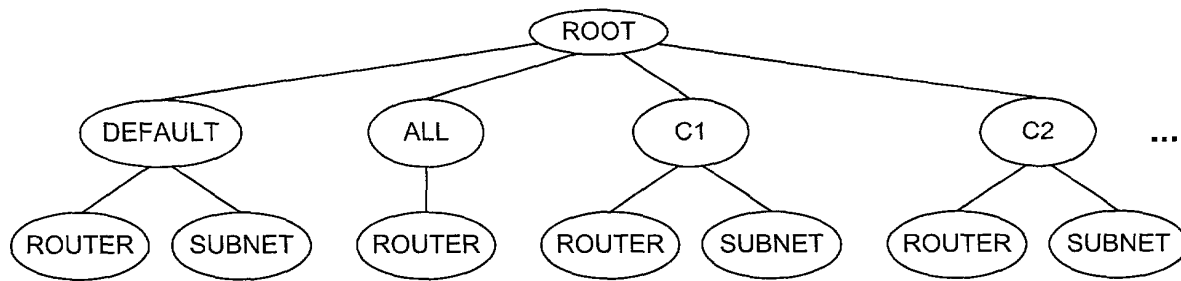


FIG. 5C

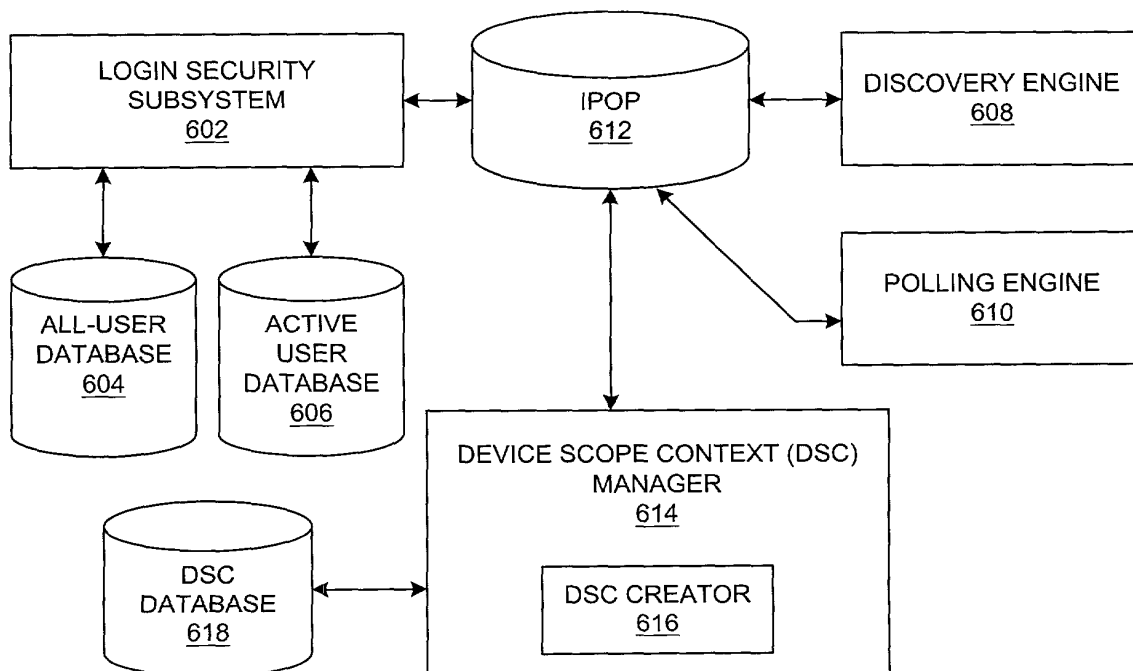


FIG. 6

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within a network management framework

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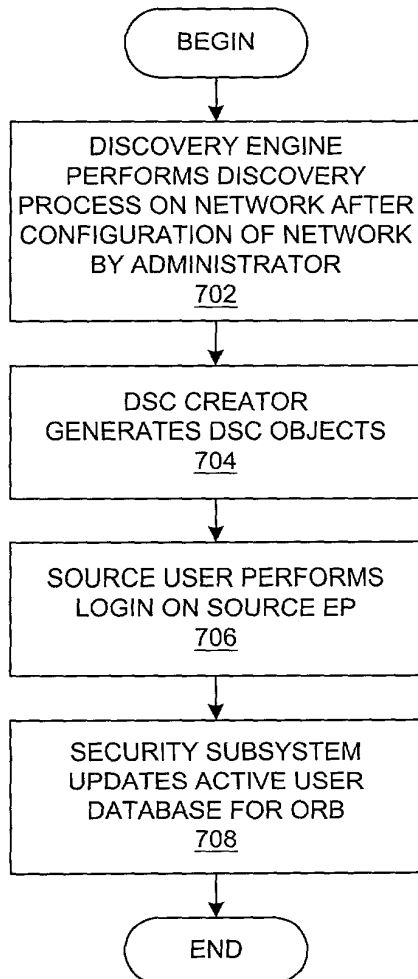


FIG. 7A

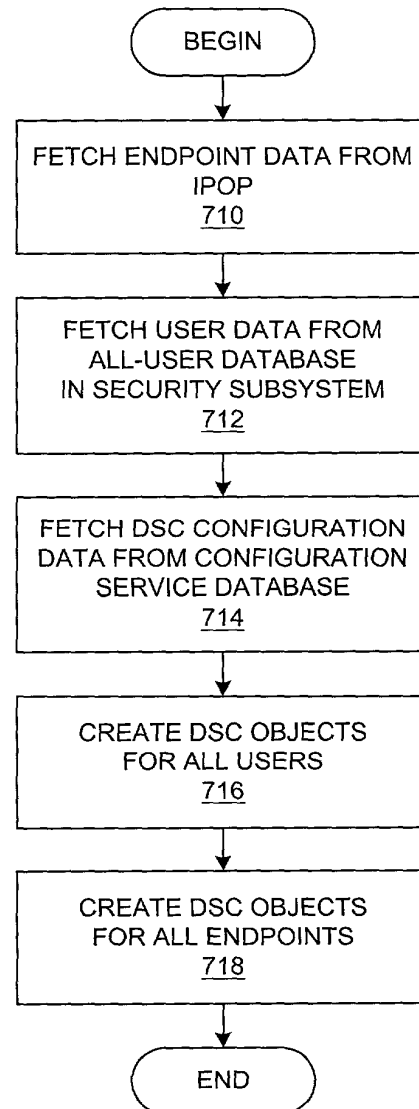


FIG. 7B



Method and system for managing secure geographic boundary resources  
within a network management framework

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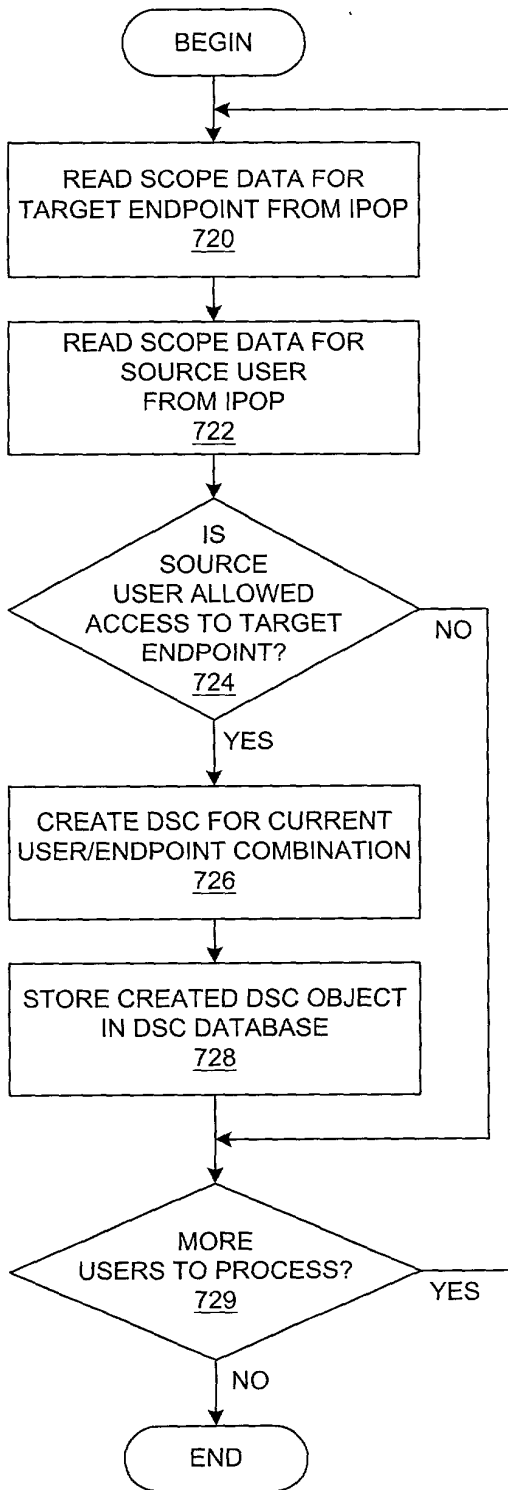


FIG. 7C

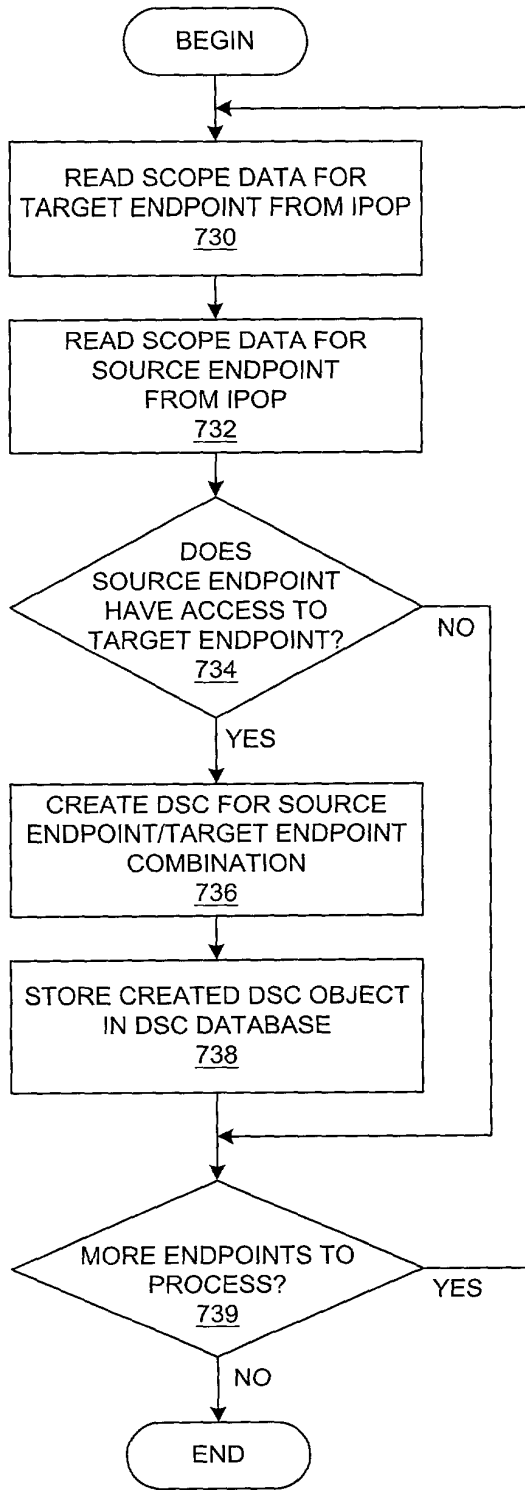


FIG. 7D

Method and system for managing secure geographic boundary resources  
within a network management framework

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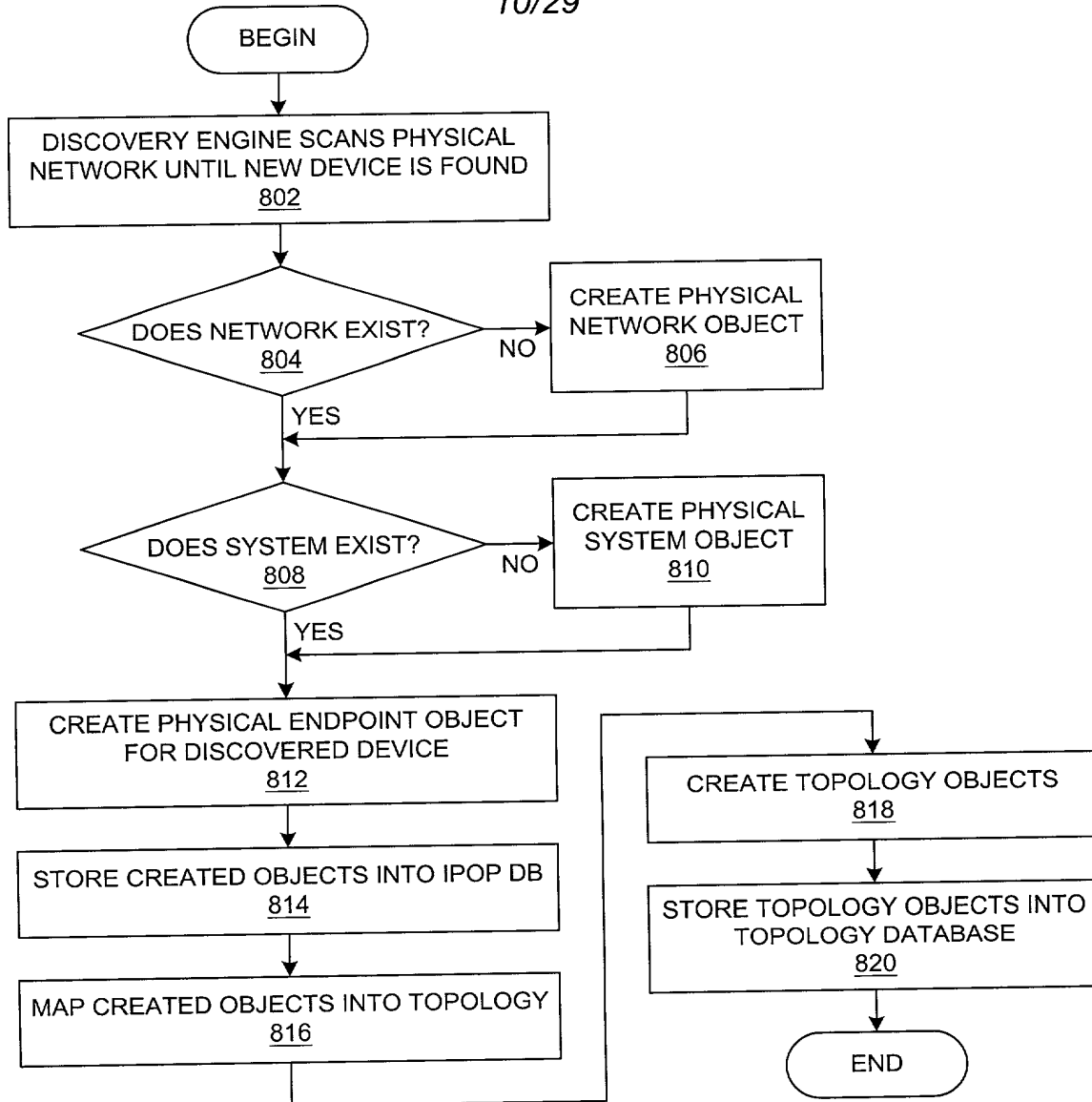


FIG. 8A

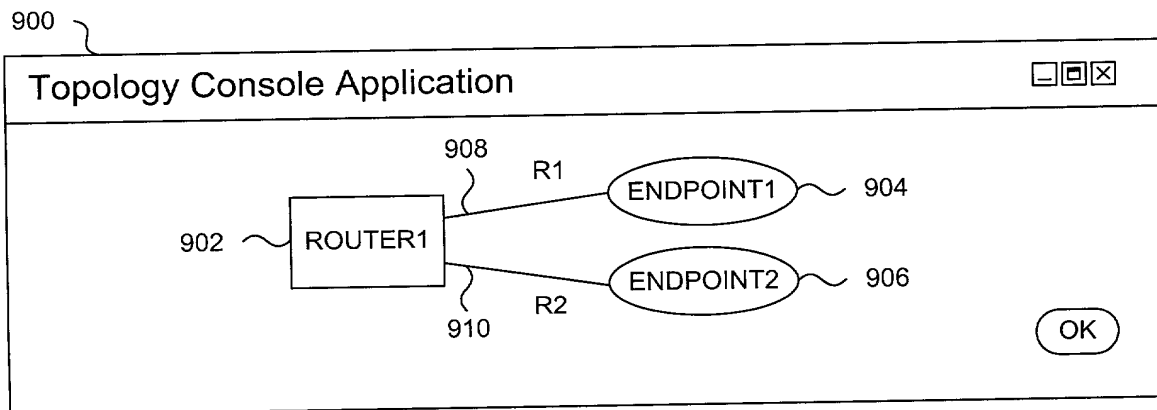


FIG. 9A

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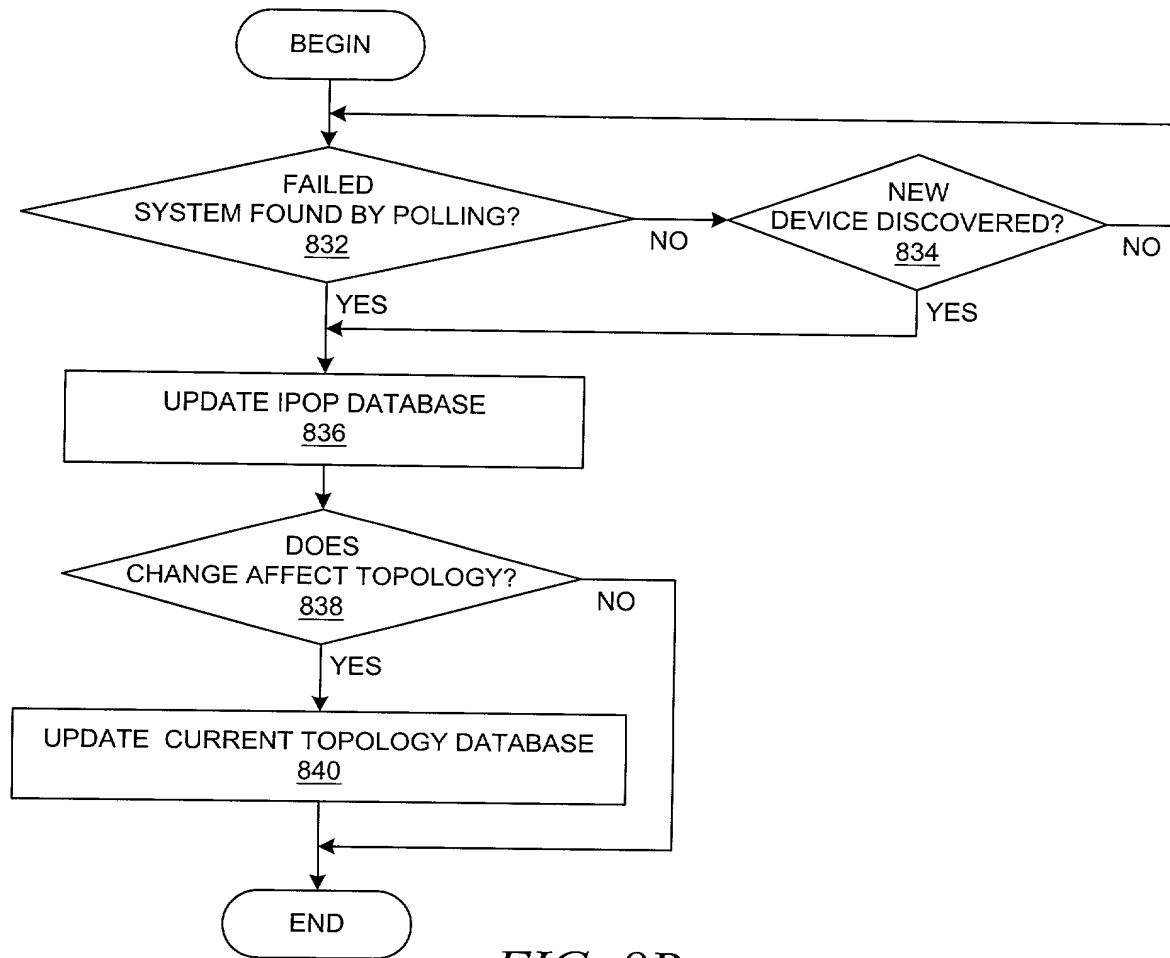


FIG. 8B

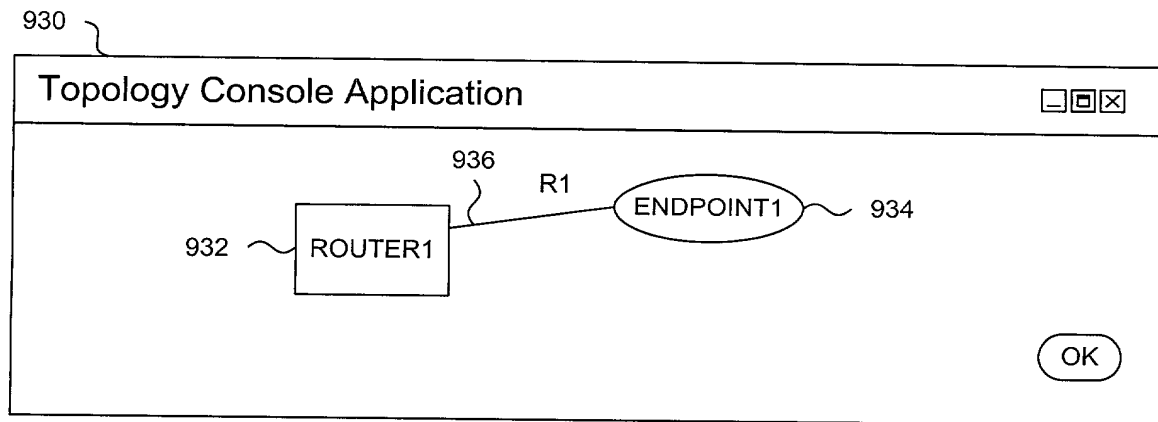
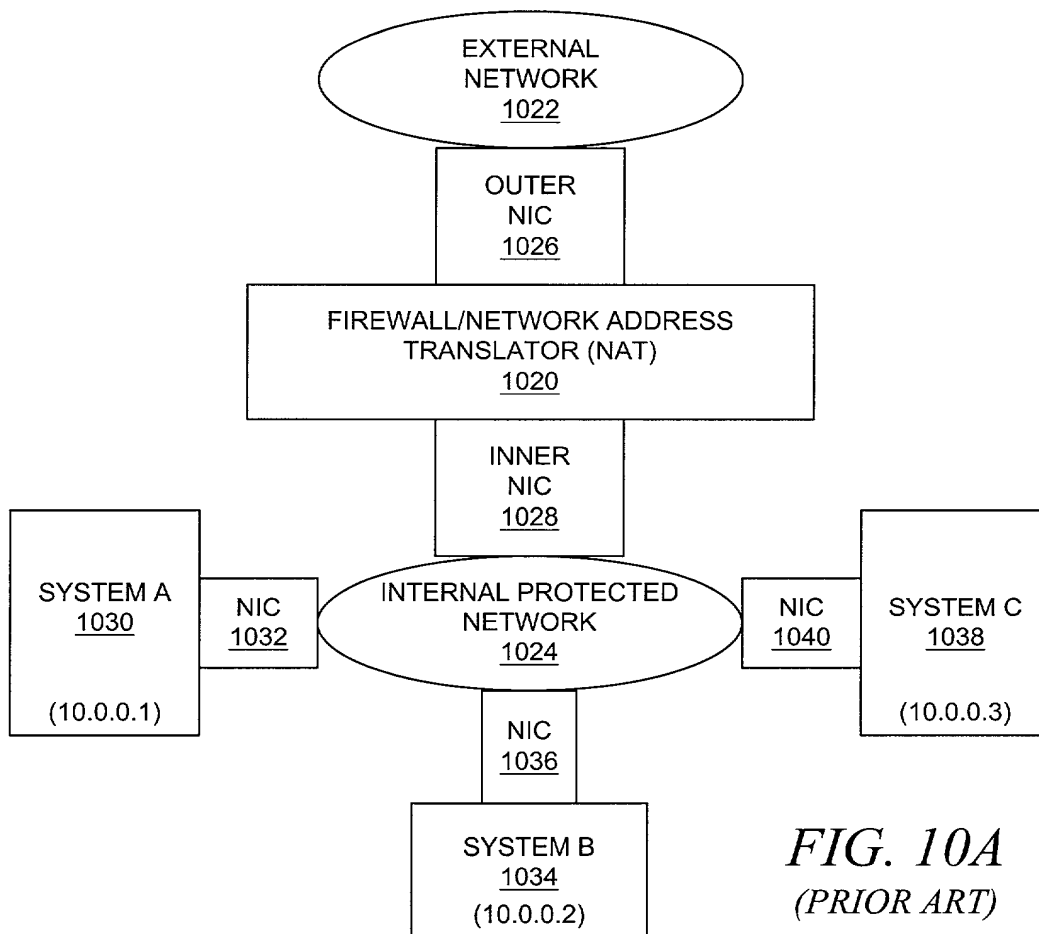


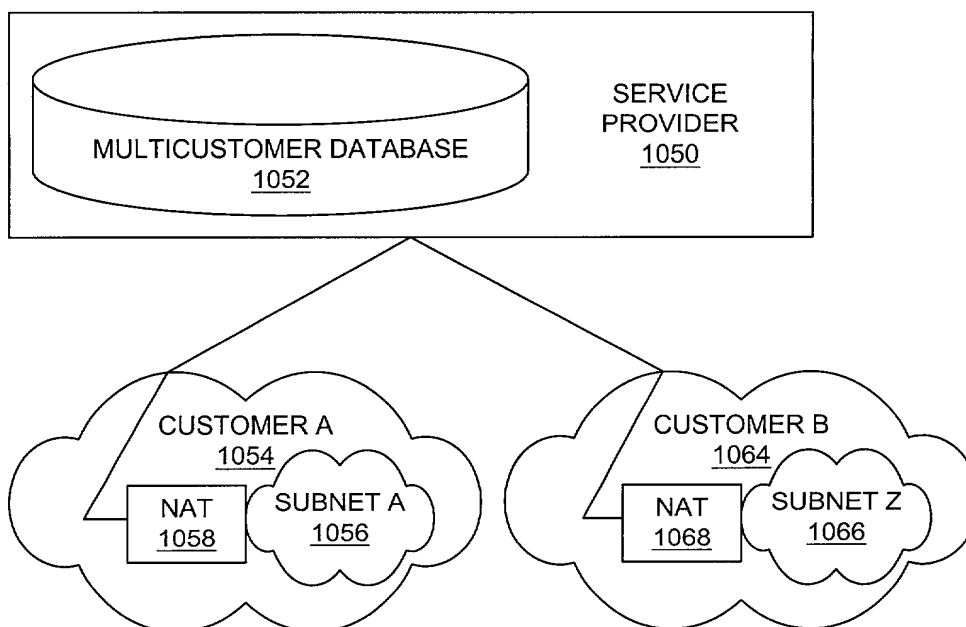
FIG. 9B

Method and system for managing secure geographic boundary resources within a network management framework

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**FIG. 10A**  
(PRIOR ART)



**FIG. 10B**

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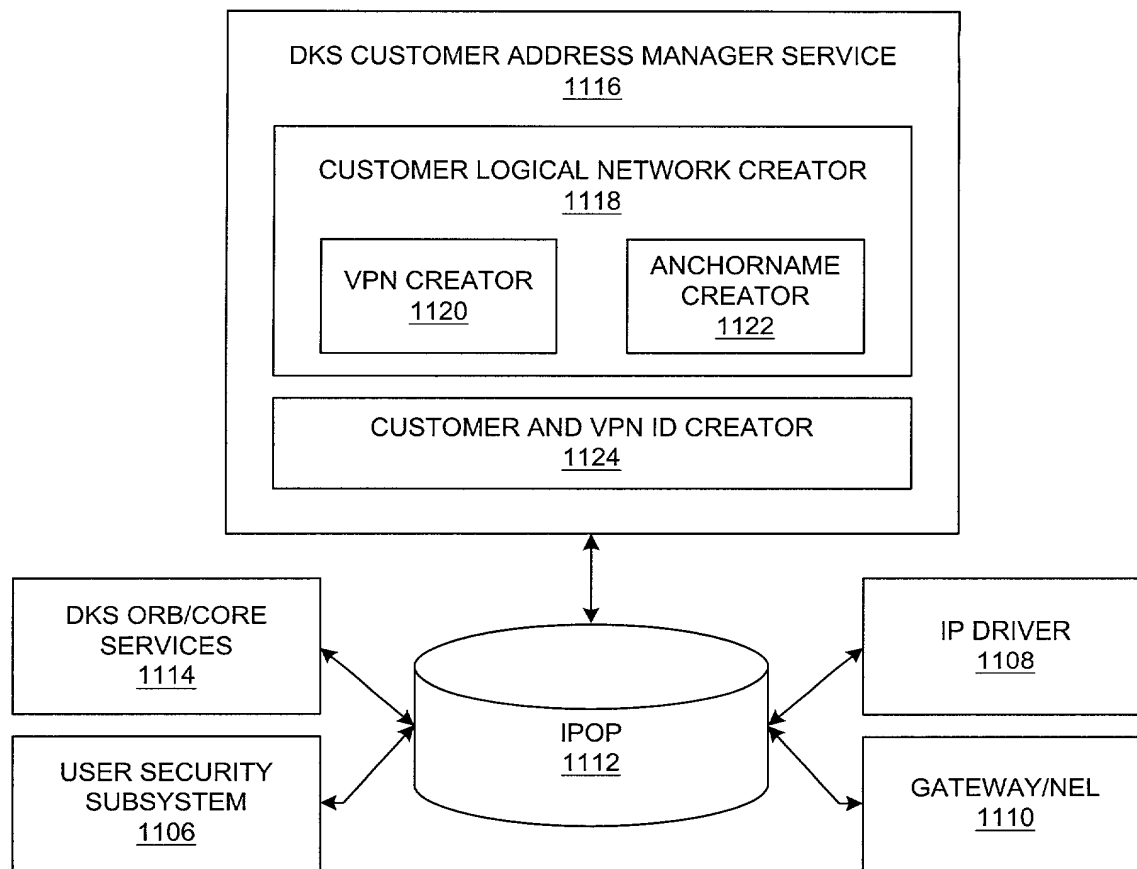


FIG. 11A

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Network Management Application

NETWORKS REQUIRING VPN CREATION--DUPLICATE ADDRESSES EXIST

PHYSICAL NETWORK ADDRESS: 10.7.205.103 ~ 1352

CUSTOMER ANCHORNAME: AUSTIN\BLDG1 ~ 1356

VPN ID:  ~ 1370

PHYSICAL NETWORK ADDRESS: 10.7.205.103 ~ 1354

CUSTOMER ANCHORNAME: AUSTIN\BLDG2 ~ 1358

VPN ID:  ~ 1372

1378 ~ ☒ CHANGE VPN ID FOR ENTIRE SCOPE

SET ~ 1374

1376 ~ CLEAR

FIG. 13

**Method and system for managing secure geographic boundary resources  
within a network management framework**

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```

Public Class IPActionObject {

    Endpoint sourceEP;
    Endpoint targetEP;

    // CONSTRUCTOR
    IPActionObject( Endpoint targetEP, Endpoint sourceEP ) {
        .
        .
        .
    }
    VOID performAction( ) // EXECUTES ACTION METHOD
    .
    .
    .
}

```

*FIG. 11B*

```

Public Class Endpoint {

    // public variables
    long   EObjectID; // ID to object (both private and public network addresses)
    InetAddress EIPAddress; // physical network address (private or public)
    long   EPVPN; // virtual private network ID

    //get/set of variables
    public long      getObjectID( ) { ... }
    public InetAddress getAddress( ) { ... }
    public long      getVPN( ) { ... }

}

```

*FIG. 11C*

```

Public Class EndpointCustomer extends Endpoint {

    public getVPNGW( ) {
        //gets the only gateway which has access to a particular private network
        .
        .
        .
    }
    //private variables only set/accessed by EP creator IPOP
    long   customerHashNumber;
    String customerName;
    String customerAnchorPath;
    Long   objectIDPrivateGatewayRoute

}

```

*FIG. 11D*

Method and system for managing secure geographic boundary resources  
within a network management framework

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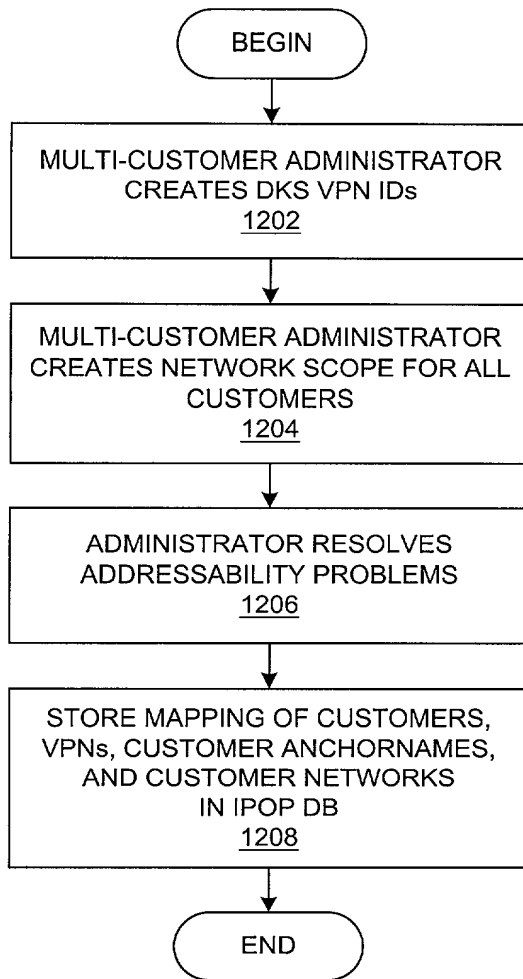


FIG. 12A

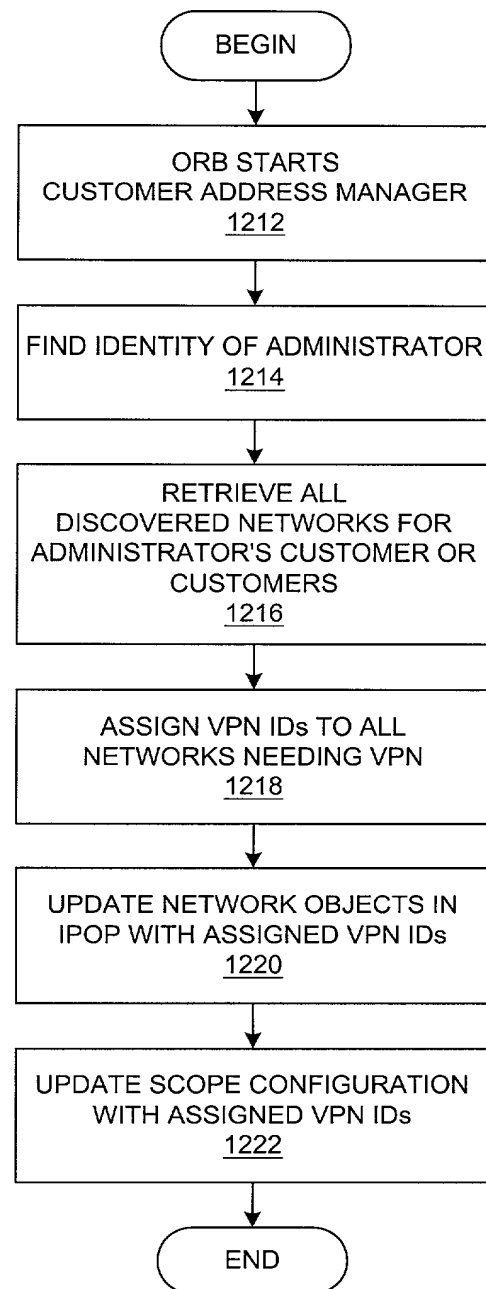


FIG. 12B

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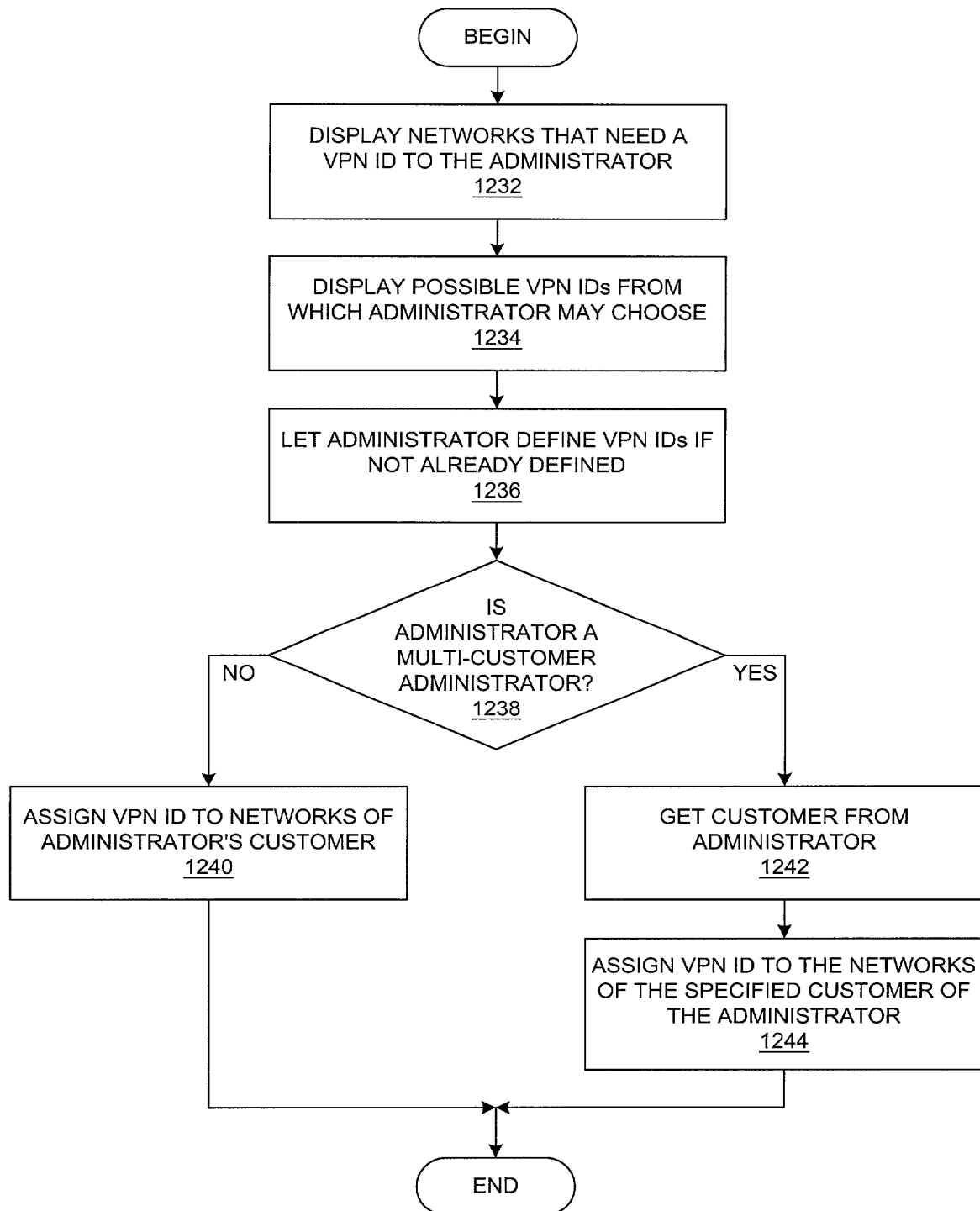


FIG. 12C



Method and system for managing secure geographic boundary resources  
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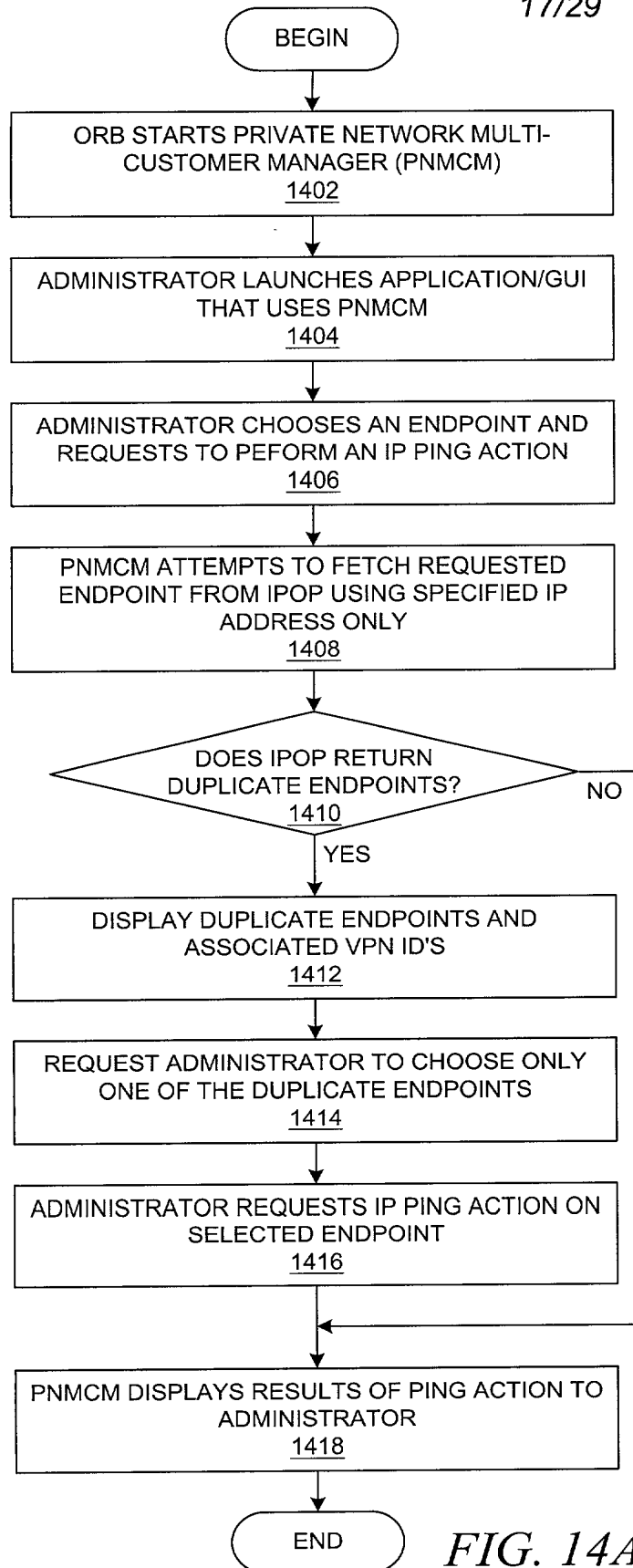


FIG. 14A

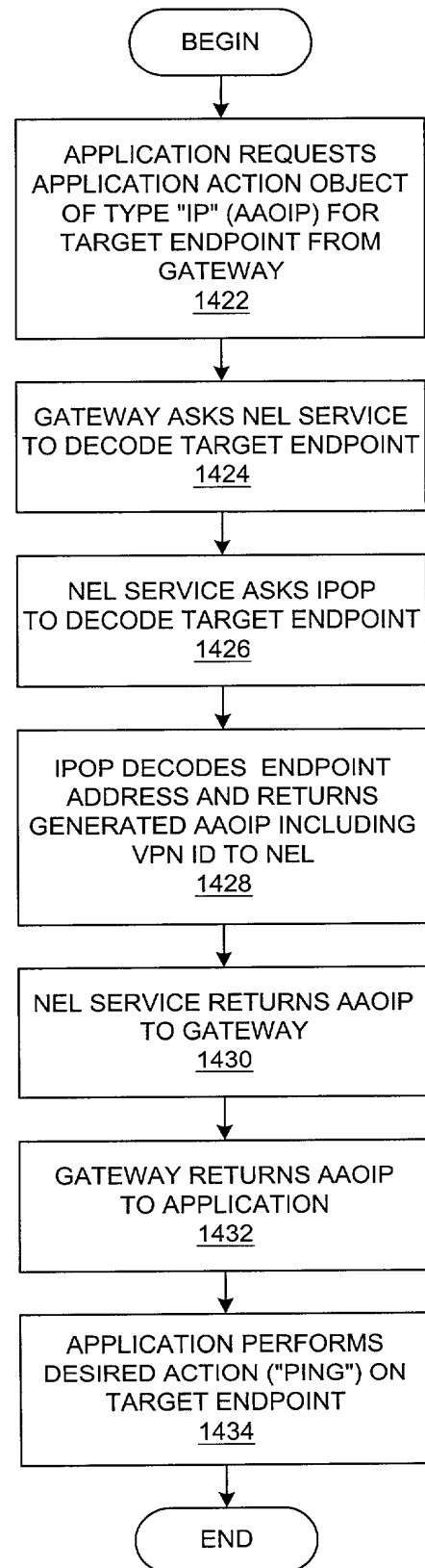


FIG. 14B

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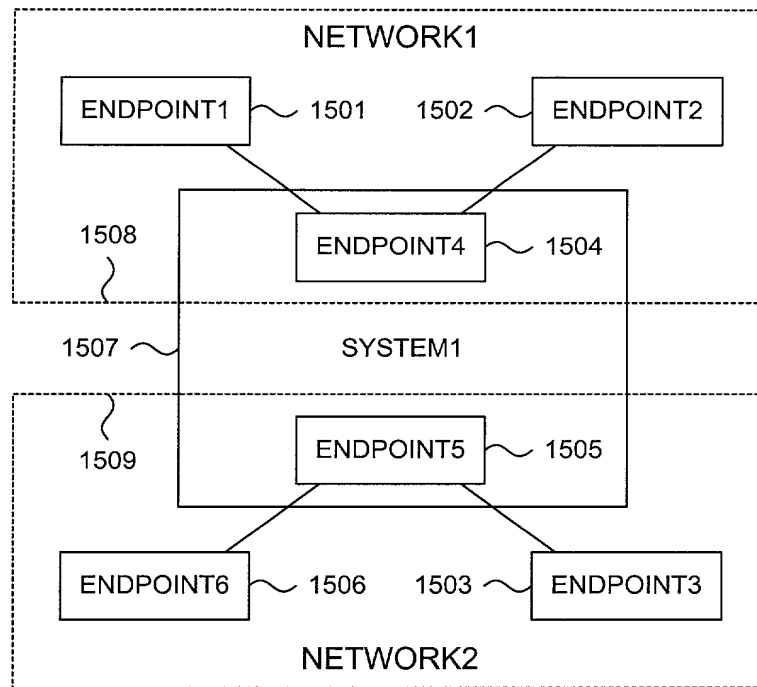


FIG. 15

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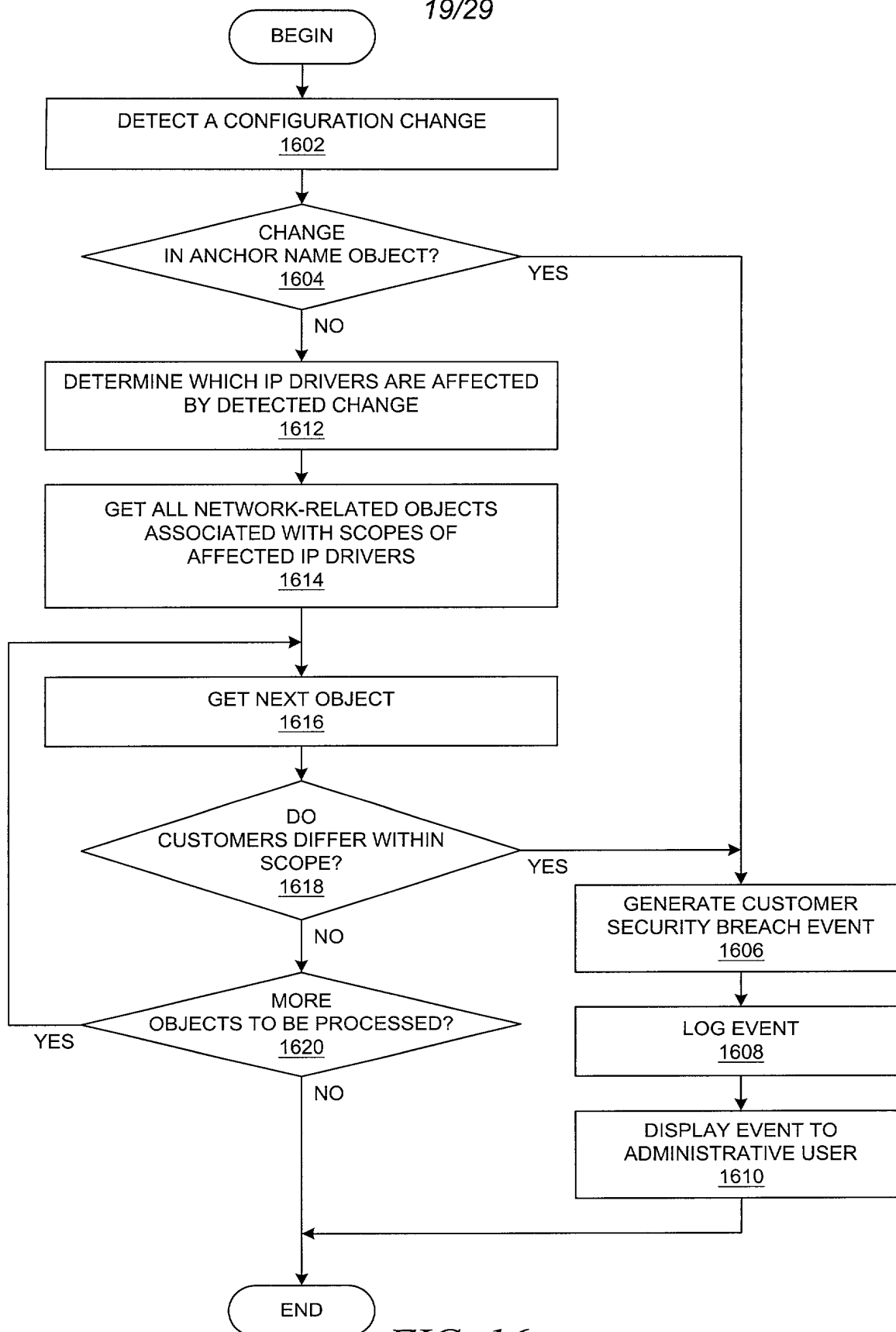


FIG. 16

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within a network management framework

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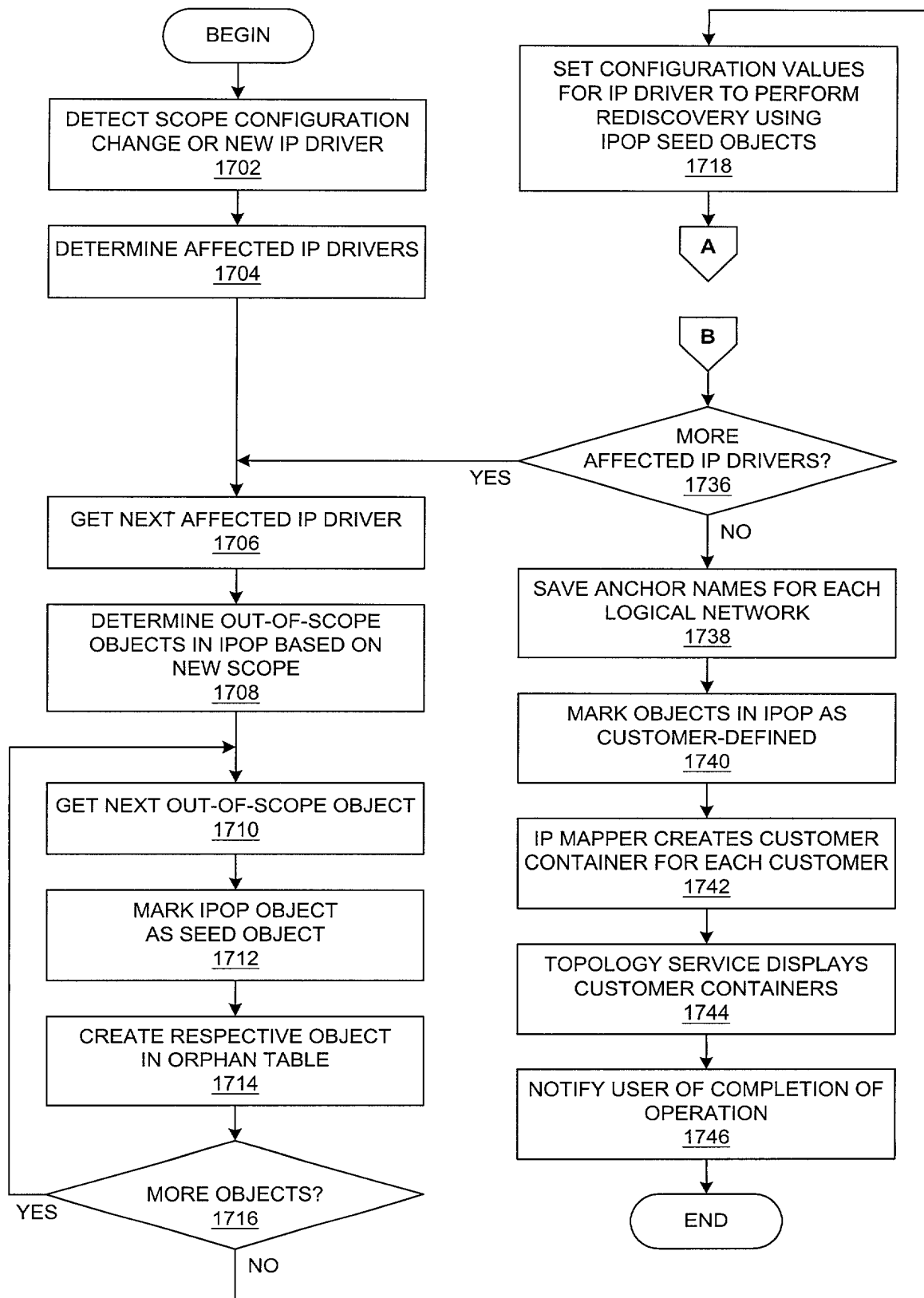


FIG. 17A

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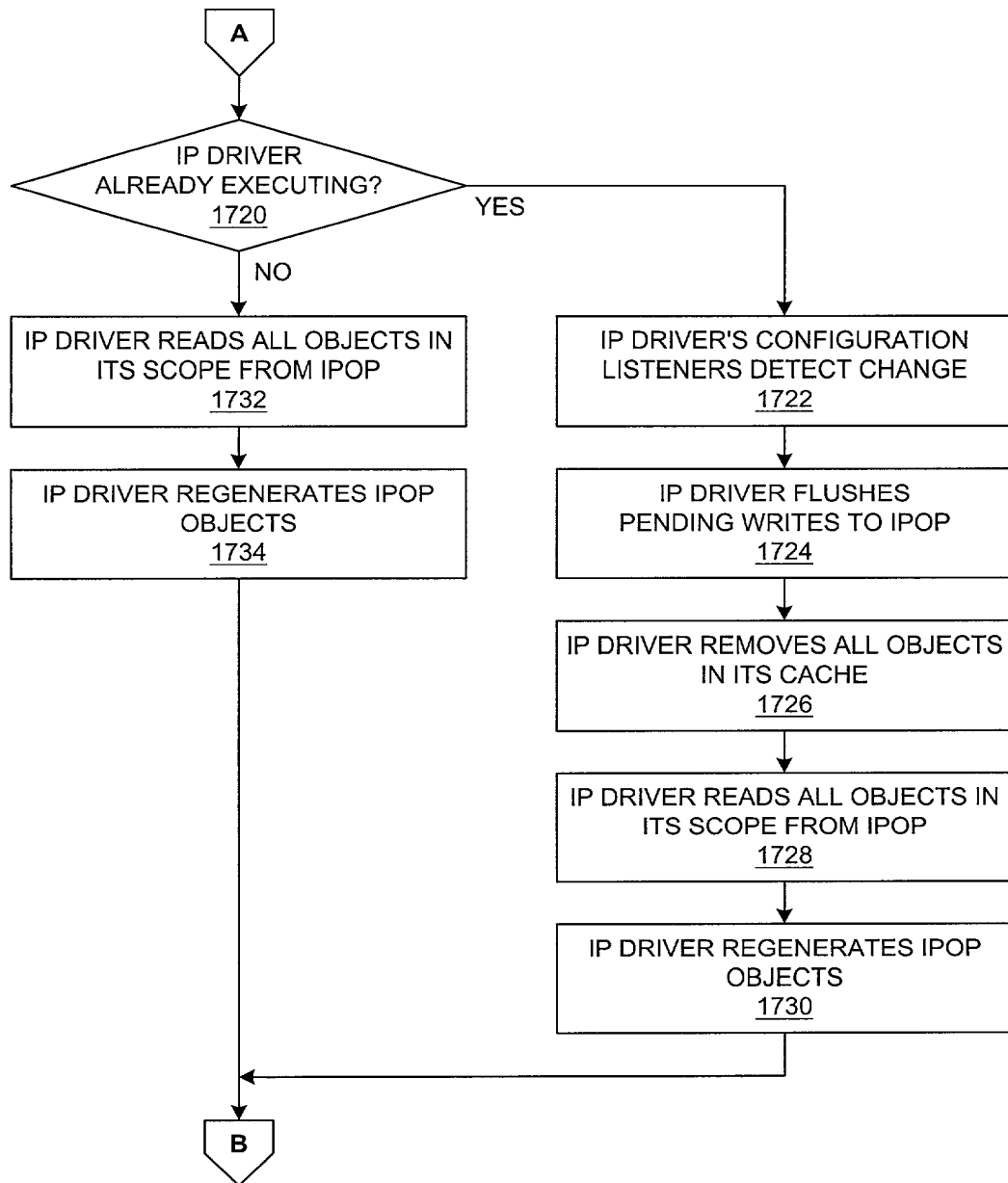


FIG. 17B

Method and system for managing secure geographic boundary resources  
within a network management framework

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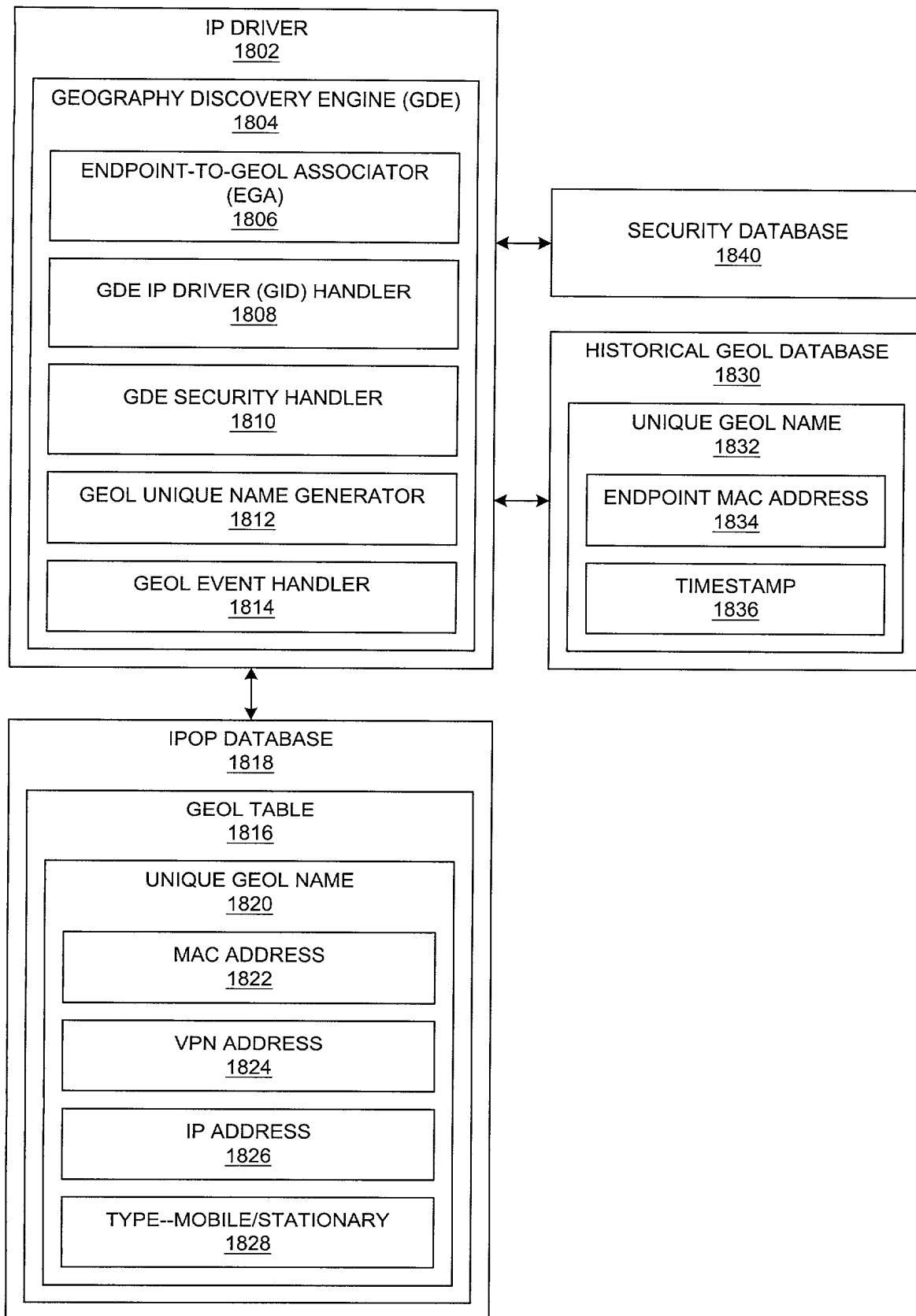


FIG. 18

Method and system for managing secure geographic boundary resources  
within a network management framework

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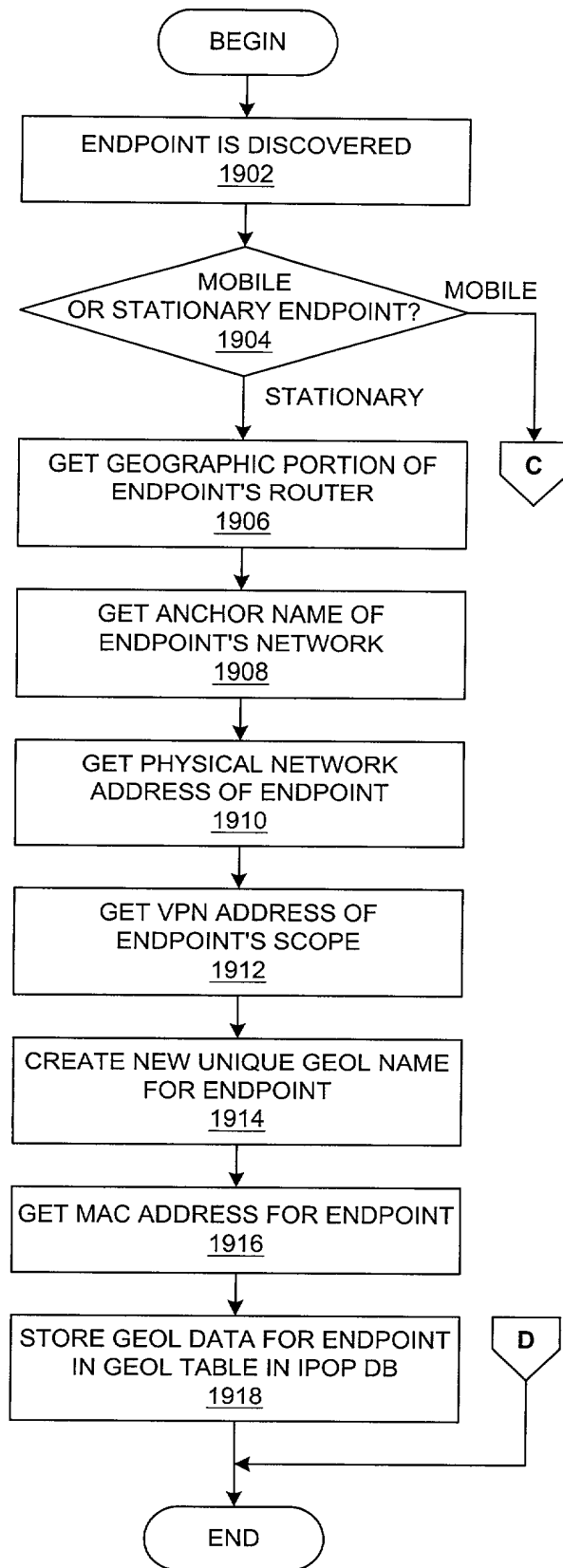


FIG. 19A

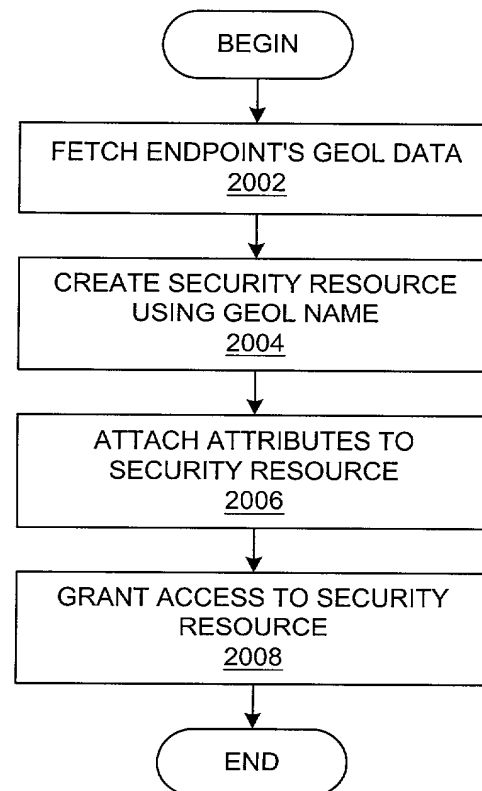


FIG. 20

Method and system for managing secure geographic boundary resources  
within a network management framework

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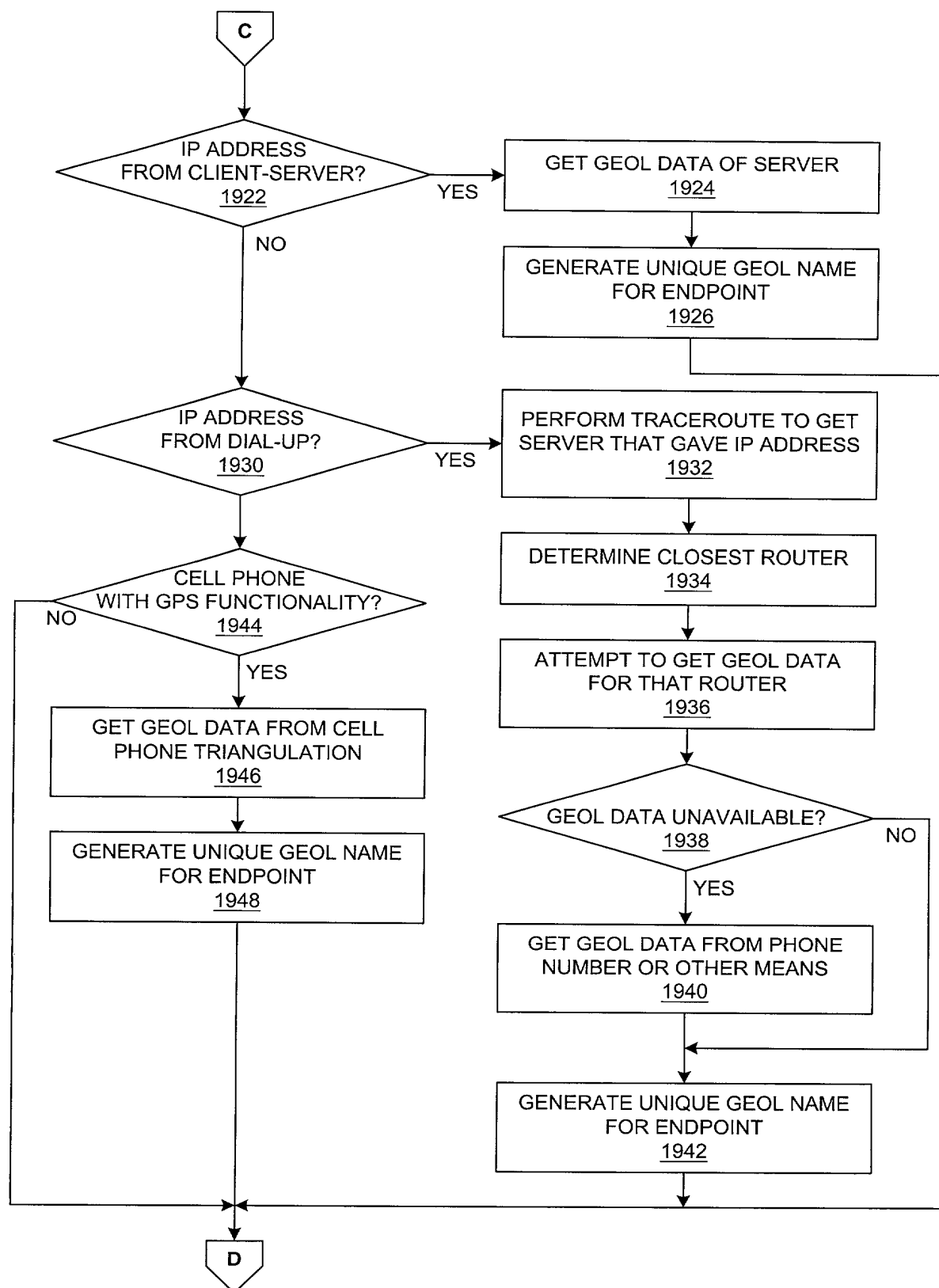


FIG. 19B



Method and system for managing secure geographic boundary resources  
within a network management framework

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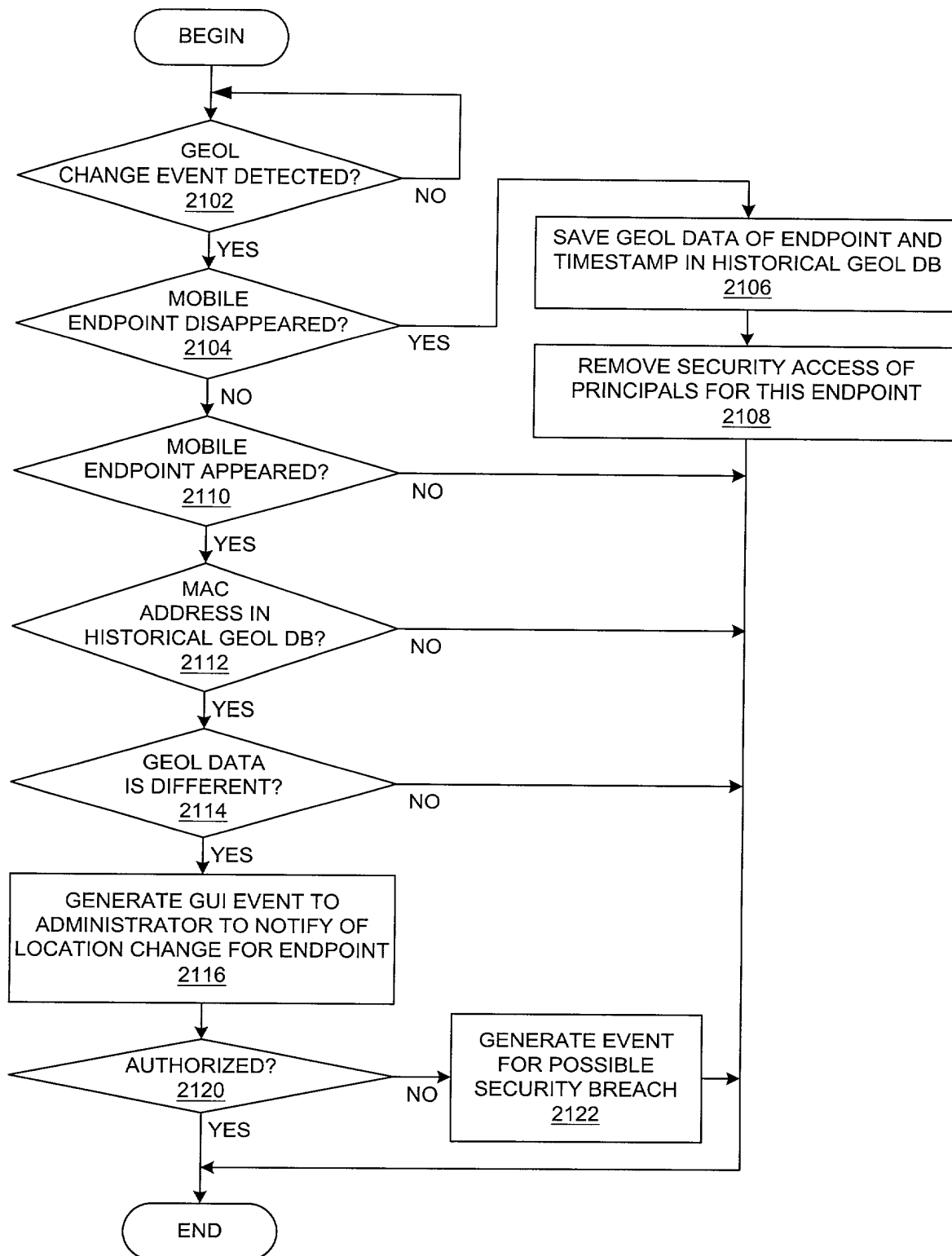


FIG. 21

Method and system for managing secure geographic boundary resources  
within a network management framework

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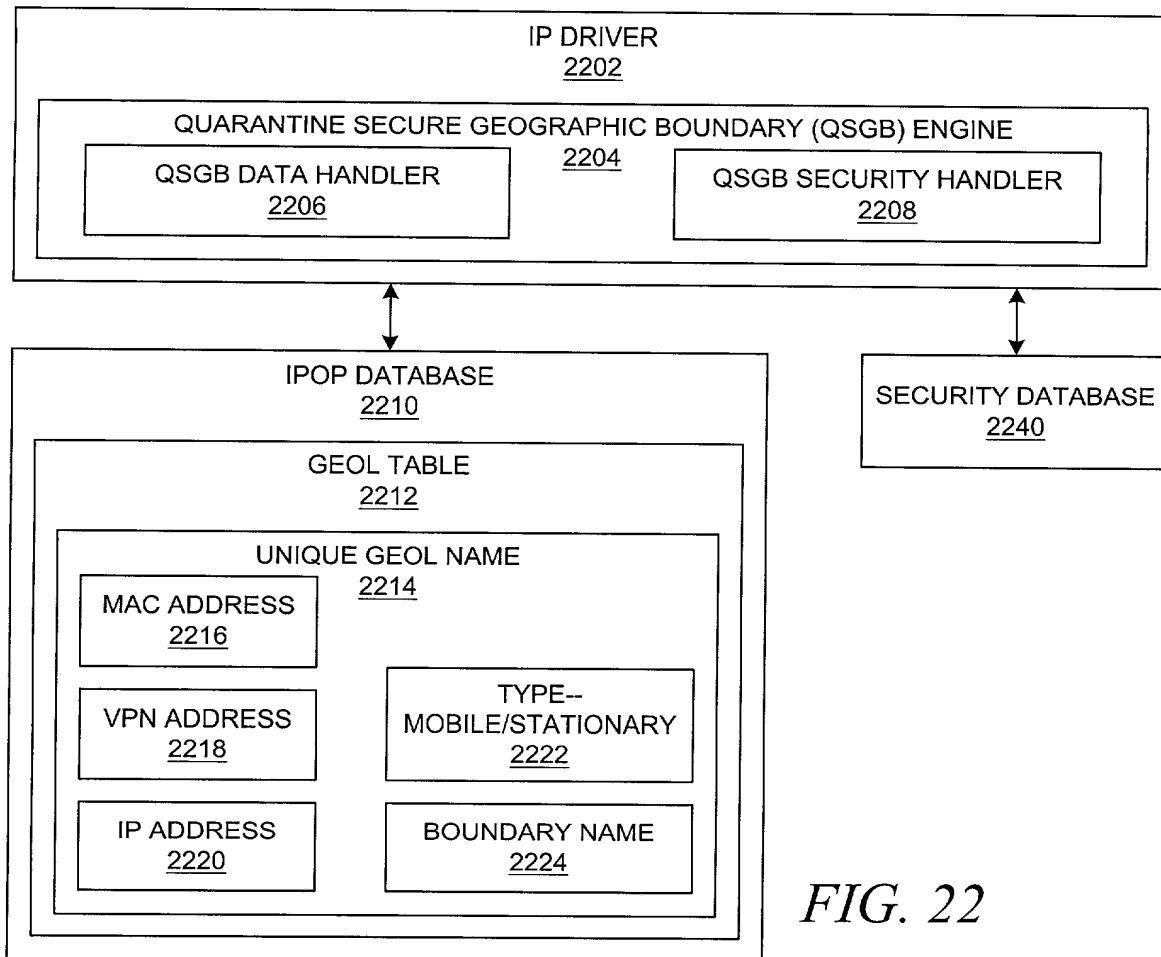


FIG. 22

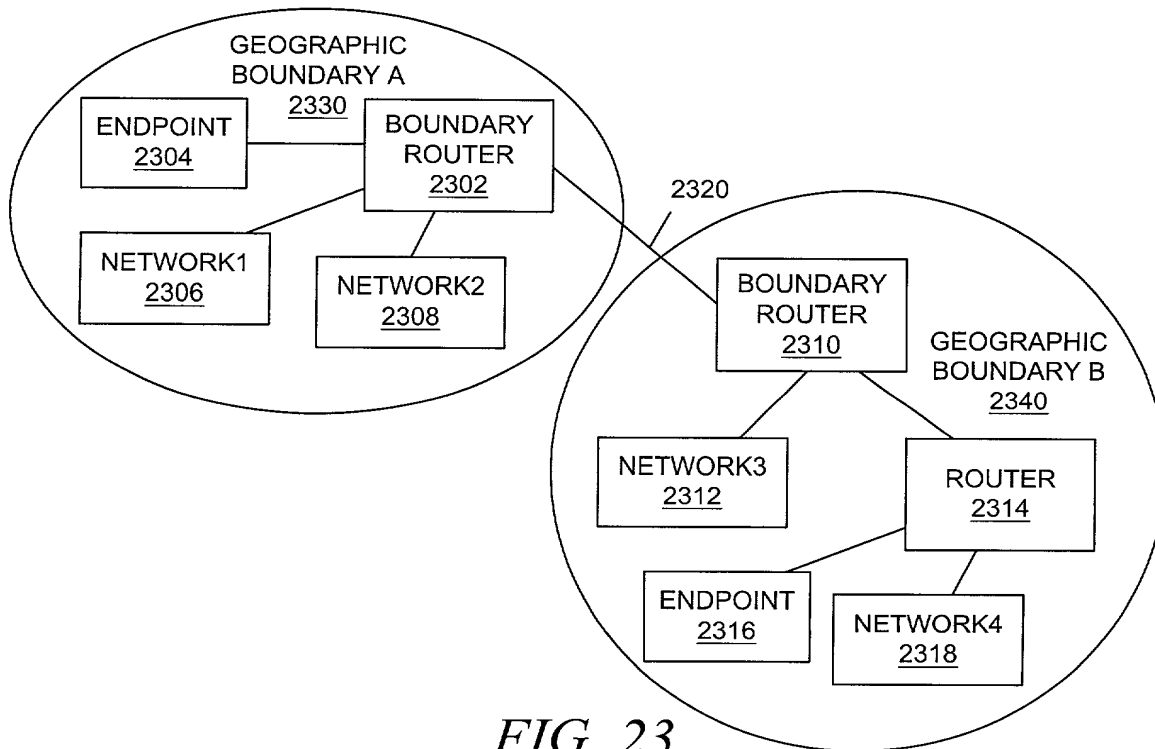


FIG. 23

Method and system for managing secure geographic boundary resources  
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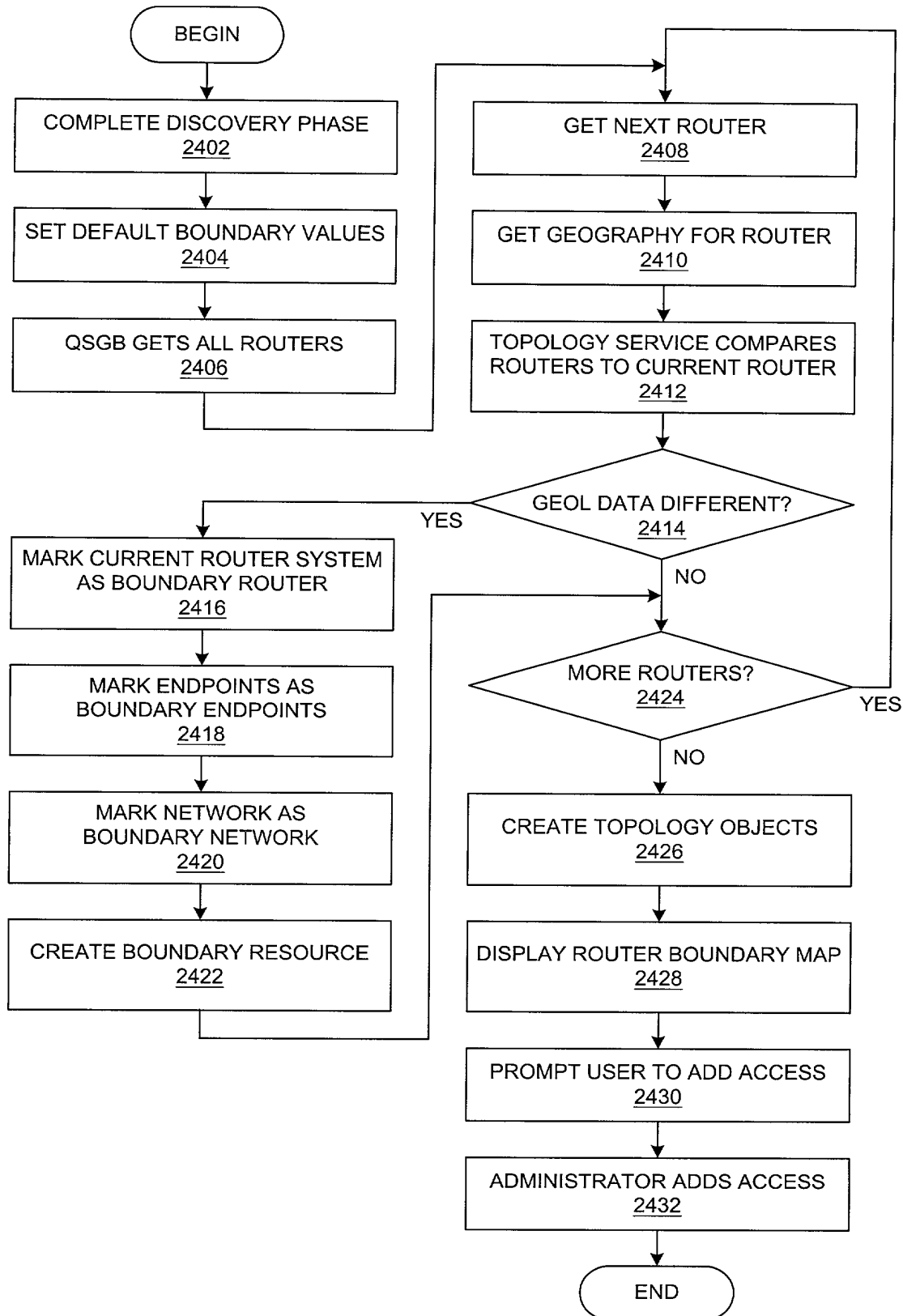


FIG. 24

Method and system for managing secure geographic boundary resources  
within a network management framework

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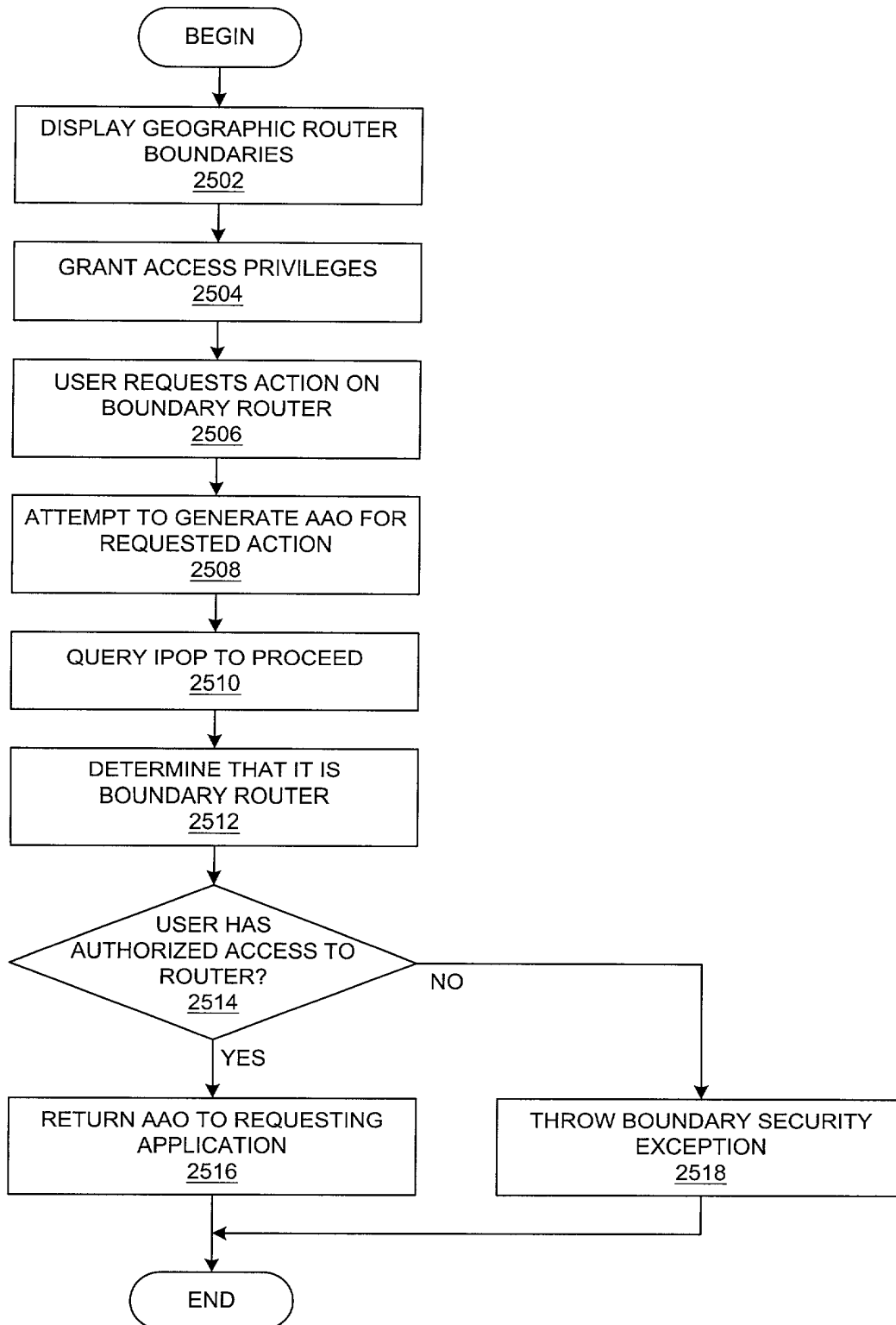


FIG. 25

Method and system for managing secure geographic boundary resources  
within a network management framework

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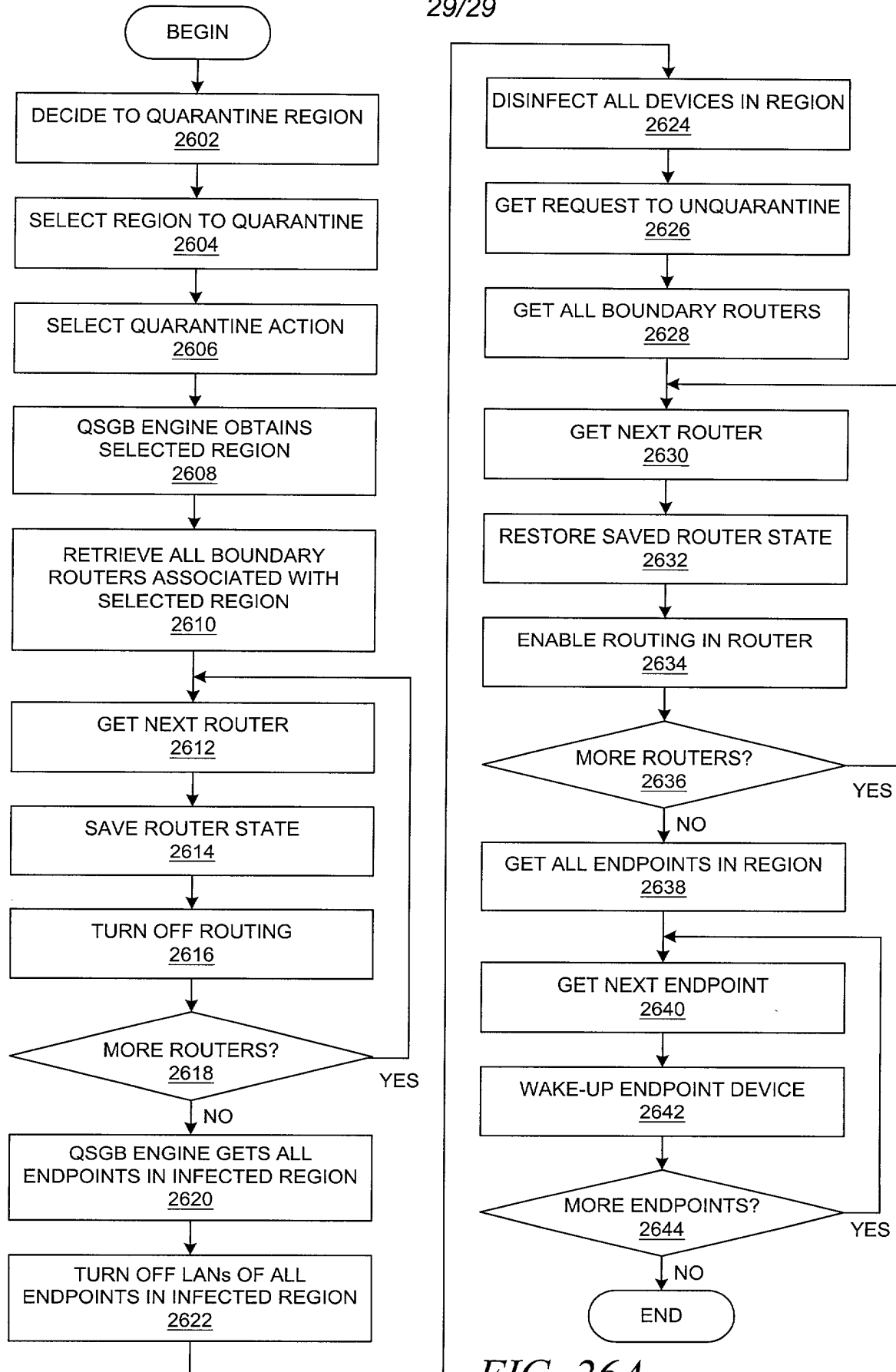


FIG. 26A